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The

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THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

Including an Epitome of Current Medical Literature.

WITH SUPPLEMENT.

No. 3422. SATURDAY, AUGUST 7, 1926. **Price 1/3**

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LETTERS, NOTES, ETC.

HYDATID CYST OF THE ORBIT.

MR. H. B. WILLOUGHBY SMITH, F.R.C.S. (Gainsborough), writes as follows with reference to the case of hydatid cyst of the orbit reported by Dr. E. A. Seale in our issue of May 29th (p. 900): "I published an account of a case of hydatid in the orbit in a native child in the *Transvaal Medical Journal*, 1906. I forget the age of the child, but the cyst was tense, and on microscopical examination of its walls, etc., hooklets were found."

TUNGSTEN ARC LAMP IN PULMONARY TUBERCULOSIS.

DR. T. E. LARKINS (London) wishes to know whether others have had good results in the treatment of pulmonary tuberculosis by the tungsten arc lamp. His experience, after three months, is that, with only one exposure a week, the cough lessens, the expectoration dries up, and the patients say that their general health has improved. Clinically, the physical signs are better, and bacteriologically there is a rapid decrease in the number of tubercle bacilli in the sputum.

ESERINE IN GLAUCOMA.

WE have received from the medical officer of Thar Parka Civil Hospital, Mirpurkhas, Sind, India (B. C. Vachhrajani), a note in which he relates some cases which, in his opinion, indicate that eserine is a most valuable drug in the treatment of glaucoma and should be given a good trial before operation. A solution of eserine of the strength of 4 grains to 1 ounce is used, as a rule, two or three times a day.

POISONING BY TOBACCO APPLIED TO THE SKIN.

WITH reference to notes published recently on poisoning by tobacco applied to the skin, Dr. M. CARNEGIE SIMPSON (R.M.O., Ross and Cromarty Joint Hospital) sends the following extract from Bate's *Dispensary* (1699): "Oyl of Tobacco.—Anoint the pit of the stomach with gr. v or vi and the patient will presently vomit, but if you would move the body downwards, anoint about the navel therewith and the sick will presently fall a purging."

DEVIATION OF THE NASAL SEPTUM.

DR. F. DALY (Shirebrook, near Mansfield) writes to express the opinion that deviation of the nasal septum (to the left in left occipito-anterior and to the right in right occipito-anterior) is brought about at birth by the pressure of the maternal parts in the soft yielding bones and cartilage of the child's nose. Firm pressure with finger and thumb on the nasal septum, just above the alae nasae, with traction in a downward and outward direction, corrects the deformity during the first two or three weeks of life.

MENTAL IRRITABILITY AND BREAKDOWN IN THE TROPICS.

DR. OSWALD HORROCKS, F.R.C.S.Ed. (C.M.O. Annammalais Medical Association, Valparai, South India), in a letter on this subject, writes: I have read the several letters in the JOURNAL during the past three weeks on the above subject. As it is necessary that a thorough investigation should be made and the real causes found, may I help by the following opinion, formed during the last three years I have been resident in Southern India? I believe that a deficiency of thyroid is at the bottom of the whole trouble. The gland may not function owing to hereditary tendencies. All the causes enumerated in other letters—such as bad food, the glare of the sun, drink, isolation, quinine, etc.—may affect a young man, but in spite of all these conditions his friends tell him that he is putting on fat. He is really becoming myxoedematous, with all its terrible symptoms of lassitude, etc. To help himself he drenches his system with salines, which make him worse; he finds temporary relief in drink, eventually taking too much.

The exciting causes in Southern India are high temperatures of disease lasting for some time, as in neglected malaria, typhoid fever, and suppurations—for example, appendix abscess and puerperal fever. I have had patients between the ages of 19 and 70 markedly improved on the administration of thyroid gland tabloids.

A lad aged 19 (son of a myxoedematous mother), who had had malaria badly, and suppuration after a motor-bicycle accident, consulted me for lassitude, disinclination for his work, irritability of temper, sudden annoying attacks of frothy diarrhoea, and threatening suicide if he lost his job. I started him on 2-grain doses of thyroid nightly, telling him to increase the dose by half a grain until he found the amount that practically made him well. He is now taking 5 grains and is in perfect health and happy. His diarrhoea was probably the beginning of sprue. He takes no drink. Stop his thyroid for a week and he is ill once more. His mother had suffered from malaria badly before the birth of her son, and put on 4 st. in weight immediately after; she described it as "flabby fat," as if she were a beer drinker. She has not been the same as before. Her heart could not stand any strain: a sudden noise would upset her; looking down from a moderate height made her giddy and feel inclined to throw herself over. There was fear of impending death in a train or motor car, a terrible feeling of lassitude described as a sinking through the earth. Her temper was becoming unbearable; she was a misery to herself and all around. Three years ago she consulted me for terrible acidity, with severe vomiting and collapse: 4 grains of thyroid at night and 2 grains after lunch keeps her in good health. She has lost all her symptoms; her heart has improved to such an extent that she enjoys a walk and plays badminton. Her memory, which she was rapidly losing, is now quite normal.

I believe a healthy man from home with a little care can live in any part of the world. A small proportion of drinkers abroad take alcohol for amusement's sake, but the greater number have something wrong and take it for the relief of lassitude and other symptoms. What makes the drink worse is the quantity of aerated soft water used to dilute the alcohol. It acts on the sweat glands and kidneys and reduces the salts in the blood. I have often seen six pints of fluid consumed by one man in an hour.

DR. E. HOBHOUSE, in the course of a note on this subject, writes: There are few more obscure problems in medicine than the interaction between the animal organism and its physical environment, climatic and meteorological, quite apart from the difficulty of excluding social and individual factors. I lived for two years in Colorado, at elevations of 5,500 ft. and over. It was well recognized that after a continuous stay many people, especially women, became restless, sleepless, and irritable. But the first effect was that exaltation which the Bishop of Singapore mentions, as described by Dr. Leys in Kenya, and which frequently led to overexertion on the first arrival. A brief return to lower levels every year was sufficient to put most people right; if they stayed on they became neurasthenic and depressed, but I never heard of anything like suicide or homicide as the result. The majority of the population led an active and energetic life under a sun which shone as long and as brightly as in almost any quarter of the globe. But the state of mental instability, which may end in suicide, is wholly different from that produced by the exciting effect of the high altitude climate which may lead to acts of violence, and it is impossible to suppose that both are due to the effects of sunlight alone. Other factors come in of which, I believe, the chief is humidity. In fact, the effect of the solar rays is quite different in Colorado and inland Australia, outside the tropics, both dry regions. Sunstroke, so called, in Colorado is practically unknown, even though summer temperatures of 90° F. and over are common. Both there and in Australia it is possible to ride or work in the open all day with the thermometer standing at from 90° to 110°, without any more protection than in England. I understand this is also true in Kenya and elsewhere, though I believe it would be considered lunacy to attempt the same in India or the Malay Peninsula. At present, so far as I know, there is no sufficient scientific reason to be alleged for these differences, and the whole subject requires much more careful investigation considering its importance to the empire. The problem, for example, of how much of Australia is really a "white man's country" depends on these factors.

A HUMAN OSTRICH.

DR. J. LIVINGSTON (Barrow) sends a description of the removal by operation of a large number of foreign objects swallowed by a patient—a man, aged 35, who was admitted to hospital with acute peritonitis, the provisional diagnosis of appendicitis having been made. Knowing the patient's previous history, he was questioned as to the possibility of his having taken anything to cause his illness. He denied this and was apparently quite rational. On opening the abdomen the whole peritoneum was seen to be intensely inflamed, and several very hard foreign bodies were felt in the intestinal canal near the ileo-caecal valve. The foreign bodies were: two slate pencils 1¼ and 1⅜ in. long; part of an iron boot-heel plate, 3 in. by 1/2 in.; a thin iron plate, 1 in. by 1½ in.; a piece of lead piping, 1½ in. by 1/2 in.; the blade of a knife, 2½ in. long; two needles, 3½ and 1⅞ in. respectively; half a safety-pin, 1¾ in.; three nails, 1½ in. long; a piece of metal, 1⅞ in. by 1/4 in.; and a piece of glass, 1¼ in. by 1/2 in. The sharp edge of the larger iron plate had perforated the bowel in several places during its passage. The long objects and the piece of glass were found collected in the second part of the duodenum, and were removed with difficulty. The patient died two days later, and at the necropsy another small needle was removed from the pancreas and a collapsible tube, 1½ in. long, from the intestinal tract.

LONGEVITY IN A FAMILY.

DR. A. E. ROCHE (London, W.) writes: Having received from a paternal uncle (one of a family of nine, all surviving, well, and active) a list of the ages of his brothers and sisters, I think it of sufficient interest to justify publication. The three eldest are males aged 79, 77, and 75, and a female follows aged 74. Next come two males aged 70 and 69, after whom there are three females, whose ages are 67, 64, and 63. The average age of the nine is thus 70. Echoing the query so frequently met with in popular publications, I ask, "Can any reader beat this?"

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 31, 32, 33, 36, and 37 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 34 and 35.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 100.

British Medical Association.

PROCEEDINGS OF SECTIONS AT THE ANNUAL MEETING, NOTTINGHAM, 1926.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

Comyns Berkeley, M.D., M.Chir., F.R.C.P., President.

PRESIDENT'S OPENING REMARKS.

The President, in his opening remarks, reminded those present that it had always been the tradition of that Section, at any rate, to select as subjects for discussion those which interested more especially the general practitioner. The committee, in accordance with this tradition, had selected three subjects for this meeting, and it could truly be said in connexion with all three that the family doctor was frequently being called upon to give advice and, in many instances, to make important decisions. The subject of that morning's discussion, the indications and methods for the termination of pregnancy before the viability of the child, was one which members of the medical profession were continually coming up against, and even being worried about, and he was sure that all present were looking forward to a most interesting discussion.

DISCUSSION ON INDICATIONS AND METHODS FOR TERMINATION OF PREGNANCY BEFORE THE VIABILITY OF THE CHILD.

OPENING PAPERS.

I.—THOMAS WATTS EDEN, M.D.,
Consulting Obstetric Physician, Charing Cross Hospital.

THE INDICATIONS FOR INDUCTION OF ABORTION.

General Considerations.

The medical profession has always recognized that its members should not make themselves responsible for the termination of pregnancy unless there are good reasons for believing that completion of the pregnancy would actually endanger the mother's life or prejudice her future health. It has never been possible, and probably never will be possible, to lay down strict rules as to the conditions under which abortion may be or should be induced. If it were possible, these rules would need revision from time to time, to bring them into line with progress in the management of disease. It is therefore a matter of practical interest for us to take stock of the position from time to time, and see to what extent we are agreed upon the conditions which may fairly be regarded as indications for inducing abortion.

I am not one of those who feel that our attitude should be a very rigid one in this matter. Each case deserves consideration on its merits, and sympathetic consideration too, for although to a healthy woman pregnancy is often a period of unusual well-being, to an ailing woman it may be a long-drawn and painful penance. We ought to make it clear to our patients that this aspect of the matter has been duly weighed in the advice we give them.

It is an ethical question of great interest to what extent we as doctors have the right to insist that a woman shall pass through an ordeal which she is unwilling to face, even if we do not think that she will sustain any permanent injury from so doing. I recollect a case that occurred many years ago now, which first led me to relax the rather rigid views in which I had been brought up. I had attended the wife of a distinguished barrister in her first and second confinements. A third pregnancy followed after rather a short interval, and she was very unwilling to go on with it. She was a woman of great intelligence and of a sensitive artistic temperament. Both she and her husband took the view that, the prospective baby being theirs, it was their own affair whether they allowed their work to be completed or not. They did not care a jot for the rigid views generally taken by the medical profession. They had formed the opinion that a third pregnancy coming so soon would materially affect the wife's health, and they did not see why this risk should have to be faced at the dictation of professional standards. I was a good deal shaken by this view, and persuaded the patient to take the opinion of the late Dr. Herman, a man of much longer experience than I had at that time. A good deal to my surprise, he at once took the side of the patient and her husband. He agreed that their apprehensions were probably exaggerated, but he said we had no right to ignore them, and, after all, it was accepted that rapidly recurring pregnancies often affected the mother's health very unfavourably. So the end of it was that the pregnancy was terminated. The sequel to the case Dr. Herman never knew. Within six months the same thing happened again—that is, the patient became pregnant and wanted it terminated. This time I flatly refused to interfere, with the consequence that they went to one of my colleagues, whom they found more pliable, and I have never seen them since.

I am, however, prepared to defend the view that it may at times be right to terminate pregnancy, even if the mother is not suffering from any condition which could, strictly speaking, be called disease. The cases in which this can be done require, however, the most careful consideration, and the propriety of interfering in such circumstances must be held with a tight rein.

As a rule when we advise the induction of abortion it is for some definite morbid condition which can be classed as disease. I do not propose to weary you by going over all the conditions which can possibly be said to be indications: you will find them all in the textbooks. It will be more congenial to the atmosphere of a summer meeting if I take up a few of the more important ones, which we may all expect to meet with in our ordinary work.

Medical Indications.

Phthisis.

I will first take the subject of pulmonary tuberculosis. You will not be surprised to hear that obstetricians differ as to the necessity of terminating pregnancy in this condition—not only English obstetricians, but those of other countries also. It is not a question for the obstetricians alone, for the views of physicians with large experience of the treatment of phthisis must also be taken into account. The teaching of Osler[1] may be summarized as follows:

1. A woman with *arrested* or *cured* pulmonary phthisis, where the family history is bad and her physique below the standard, runs grave risks if she becomes pregnant; if, however, there is no hereditary taint and her physique is good, there is not much risk.

2. If there is *active* disease—that is, fever, bacilli, etc.—pregnancy usually hastens the process, and the disease advances rapidly after parturition.

3. The risk increases greatly with repeated pregnancies. Osler quotes with approval the dictum of Dubois: "A woman threatened by phthisis may bear the first accouchement well, the second with difficulty, the third never."

In my opinion this is a matter in which we, as obstetricians, should act only in close association with our medical colleagues. We are not, in point of fact, in a position to decide for ourselves. There are a number of points at which midwifery and medicine come into close contact, and these points must be viewed from both sides in order that their bearings may be properly understood. For my own part I am prepared to accept and act upon the views of Osler which I have just quoted. This means that we should be prepared to terminate pregnancy in the early months whenever there is *active* pulmonary phthisis, except in the case of patients who are obviously dying. And further, that in cases of *healed* or *arrested* phthisis the whole circumstances should be reviewed in consultation with a physician before coming to any decision. It will be remembered that we are not considering the question of inducing labour with a viable child; that is another story into which I must not enter.

A word or two on the chances of life of children born to a phthisical mother will not be inappropriate. The statement is usually made that phthisical mothers bear well

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The nature of the valvular lesion is of little importance; it is the state of the cardiac muscle which controls the situation, and it is only when signs of failure occur that the condition becomes serious. In my opinion there are two types of case in which it may be right to induce abortion: (1) the woman who in the *early months* of pregnancy shows signs of failure of compensation; (2) the woman in whom a previous pregnancy led to a serious cardiac breakdown. In the latter instance pregnancy should be terminated at the earliest possible moment, for there is no doubt the patient is in imminent danger. In the former the risk is less serious, and by careful management she may come through successfully. The risks should, however, be explained to the patient, and if it is her own wish to face them our duty is to do all we can to minimize the danger.

Diseases of the Nervous System.

Insanity.—I have several times terminated pregnancy on the advice of a psychiatric physician in one of the following set of circumstances: (1) the patient had recovered from a previous attack of puerperal insanity; (2) the patient was what is called a "border-line" case, and had a bad family history. I regard such cases as these as pre-eminently suitable for team work. I do not think general practitioners or obstetric surgeons should, either alone or together, assume the responsibility for a decision. The whole of the circumstances of the case should be reviewed by the general practitioner, the psychiatric physician, and the obstetric surgeon in company, and considered in all their aspects before induction is decided upon.

Chorea is a disorder which is not very uncommon in pregnancy, and which is, as a rule, amenable to simple management by complete rest in bed (in a room apart), careful feeding, and the administration of arsenic. Occasionally severe cases associated with pyrexia are encountered; these are often obdurate, and it may be that termination of pregnancy may now and then be necessary in the pyrexial cases. In all others, no matter how severe the clonic spasm may be, induction of abortion need not be considered.

Psychopathic Disturbances.

I have made use of this heading to bring in a case which I do not know how to classify otherwise. The details of the case are briefly as follows:

> The patient was a young woman who had had two children; after her second confinement an operation for suspension of the uterus was done (in 1919), which was followed by a very severe and prolonged phlebitis of the left leg, affecting chiefly the thigh. For many months she was in bed, and the leg never completely recovered. During her convalescence she was seen twice by an obstetric surgeon, now deceased, for whose opinion I always held the highest regard. He formed the opinion, and impressed it seriously, not only upon the patient, but also upon her husband and her mother, that it would be most dangerous for her to have another child at any time. When, therefore, at the beginning of the present year, she realised that she had again become pregnant, she, her mother, and her husband were all convinced that her life would be endangered if pregnancy was allowed to continue. I saw her in consultation with her family doctor and another obstetric surgeon, and each one of us was impressed with the seriousness of the effect produced upon the minds of all three of them by the opinion given at the time of her serious illness. The patient's mental condition was pitiable; she was, colloquially speaking, "scared to death," and nothing that any of us could say, although we said it repeatedly for several days while she was under our observation, produced the slightest change in her mental attitude. Her general health was fairly good, her pregnancy was normal, and there was nothing in the pelvis to suggest that any inflammatory residue had been left in the broad ligaments. The left thigh was a bare half-inch larger in girth than the right, but there was no other physical change in the limb. Two points were clear to us: (1) she would have been perfectly willing to continue if she had not been convinced in her own mind that she would never get over it; (2) there was absolutely no reason for intervention apart from her mental condition. What, then, were we to do? The patient, her mother, and her husband believed her life to be in danger; her own attitude was, "It is all very well for these men to say there is no danger, but if they are wrong I shall die, as the other doctor said I should."
>
> We were powerless to get this attitude modified; we therefore decided to terminate the pregnancy, and this was successfully carried out.

If any are disposed to think that we acted wrongly I would ask them to consider what effect six months of mental torment would produce upon both the mother and the child she was carrying. The effect of fear depends in no way upon the extent to which fear may be justified, and when we cannot eradicate it we must give it due weight in our considerations.

I hope I shall not hereafter be quoted as holding the opinion that any woman who says she is afraid of having a baby may be relieved of it. The circumstances of the above case are, in my experience, unique, and if there is a moral to the story it is this—that it can seldom, if ever, be our duty to tell a patient that it would be impossible for her to survive another pregnancy.

Obstetric Indications.

These are, comparatively speaking, few and relatively unimportant. I propose to speak of three only—namely, toxaemic vomiting, vesicular mole, and retention of a dead ovum.

Toxaemic Vomiting.

Under this heading I include only that form of persistent vomiting in early pregnancy which is accompanied by definite signs of toxaemia, such as a heavy albuminuria, a raised blood pressure, pyrexia, and wasting. Toxaemic vomiting sometimes proves to be incurable by medical means, and must then be arrested by terminating the pregnancy. Cases which come to induction are extremely rare in London, and I have not myself for many years seen a case which I thought required it.

It is difficult to form any estimate of the frequency of toxaemic vomiting. In the year 1913 the Registrar-General's report shows that 42 deaths were certified in England and Wales as being due to "uncontrollable vomiting" out of 3,500 deaths from causes connected with childbirth. In the City of Manchester Lying-in Hospital 9 deaths from the condition were recorded in the ten years 1913 to 1922. Cases of vomiting which end fatally must be presumed to be toxaemic in character, and these figures indicate that, though rare, the condition is not so uncommon as some of our teachers would have us believe.

Although toxaemic vomiting is rare, other forms of hyperemesis are fairly common, and are always amenable to medical treatment. The commonest form is the functional case which can be cured by segregation, or simply by removal from home surroundings to the healthier moral atmosphere of a hospital ward. Induction of abortion is not to be contemplated in these cases, which can be distinguished by the absence of the signs which I have just mentioned as characteristic of toxaemic vomiting.

Vesicular Mole.

This condition, when diagnosed, is an invariable indication for induction of abortion. Exact diagnosis cannot, as a rule, be made until, after considerable haemorrhage, the os internum is found to be open and the finger can detect the vesicular contents of the uterus. Before this stage is reached a presumptive diagnosis can be made from the syndrome which is fairly characteristic—namely, haemorrhage, usually slight and continuous, overenlargement of the uterus, absence of the physical signs which indicate a foetus in the uterine cavity, and a characteristic semi-solid consistence of the uterus. If all these signs are present, the case is either one of vesicular mole or of a dead ovum with retained haemorrhage. The treatment in either case is induction of abortion, and, as Dr. Barris will no doubt tell you, the circumstances are eminently suitable for the castor oil and quinine method of induction.

Missed Abortion.

The retention of a dead early ovum in the uterus is as a rule easily diagnosed, when an interval has elapsed which is sufficient to allow of shrinkage of the uterus. I can see no reason for leaving a dead ovum in the uterus; it is true that sooner or later it will be spontaneously expelled, and it very rarely becomes infected. It is, however, a source of annoyance and suspense to the patient, and on general principles a foreign body should not be allowed to occupy a visceral cavity when once its presence has been diagnosed. Here also the castor oil and quinine method is usually effectual.

developed and healthy children. As a matter of fact they usually do, although we know that tubercle bacilli can pass through the placental filter. There is some reason to believe, however, that apart from the transmission of tubercle the expectation of life of these infants is not normal. The statement is made by Couvelaire[3] that of infants born of mothers with active phthisis (tubercle bacilli in sputum) 38 per cent. do not survive the first month of life; this compares with an average mortality in France for the first month of 4.15 per cent. Couvelaire attributes this, not to direct transmission of the disease, but to the fact that these infants are born with a "diminished coefficient of vitality." I know of no corresponding observations in this country for the first month of life, but some very valuable data on the condition of the children of tuberculous mothers have been published recently by Dr. Ward, the tuberculosis officer for South Devon.[3] Dr. Ward traced the history of 372 of these children born in his district, and found that 34 per cent. became definitely tuberculous and a further 21 per cent. were suspect; of those definitely tuberculous one-fourth died. He concludes from control observations that the children of a tuberculous mother are seven times more likely to become tuberculous than are those of healthy mothers. Dr. Ward's observations led him to the further conclusion that of tuberculous women who became pregnant over 50 per cent. were definitely worse, while 19 per cent. were definitely improved. In addition to the 50 per cent. who became worse, in a further 21 per cent. the disease began during either pregnancy or the puerperium.

There seems no escape from the conclusion that on the whole pregnancy is a definite risk to the tuberculous mother; and further, it is not to the advantage of the community that children should be born over whom there hangs a risk of tuberculosis seven times greater than that which is run by other children. To my mind these considerations form very powerful arguments for the termination of pregnancy in women who are subjects of active tuberculous disease.

Chronic Nephritis.

To women suffering from chronic nephritis pregnancy is always attended by certain very definite risks. In the first place, complete breakdown of the renal function may occur during pregnancy, leading up to uraemic convulsions; in the second place, an intercurrent attack of acute nephritis may supervene during pregnancy; in the third place, supposing these complications occur and are survived, the working capacity of the damaged organs will be permanently reduced. Further, accidental haemorrhage, especially the toxaemic form which is associated with interstitial haemorrhage and necrosis of the uterine muscle, occurs in a relatively high proportion of cases of chronic nephritis. Lastly, in addition to the maternal risks the foetal risks are very heavy: probably not more than 60 per cent. of the children survive, death being due partly to prematurity and partly to the results of transplacental intoxication.

Notwithstanding these clearly defined risks, it is possible for a woman with chronic nephritis to survive the ordeal of repeated pregnancy, and to produce a fair proportion of children who survive. Herbert French, in his Goulstonian Lectures,[4] mentions the case of a woman who had shown the signs of chronic nephritis for thirteen years, and who bore six children, but he does not state how many of them survived. It is necessary, therefore, to take a reasoned view and to realize that the conditions I have mentioned are, after all, risks and not certainties. A proportion of cases will always escape, and the time may come when we can distinguish, more clearly than at present, the factors which render prognosis grave from those which render it more favourable.

The clinical type of nephritis has an important bearing on the prognosis. The hydraemic type, which is characterized clinically by dropsy, and in which the renal difficulty is in the passage of salt and water, is much more serious from our present point of view than the azotaemic type, in which there is no dropsy, but slowly progressive cardio-vascular and retinal changes, and in which the renal difficulty is in the excretion of the waste products of metabolism. In cases of the latter class pregnancy may be expected to proceed much more favourably than in the former.

We might, perhaps, put it like this: that a pregnant woman with chronic nephritis who develops dropsy in the early months, especially if this affects the face and upper extremities, is in great danger. In the absence of the early appearance of dropsy the danger is not so obvious at the moment, but if pregnancy is allowed to continue a most careful watch should be kept upon two things: (1) the adequacy of renal elimination as shown by a combination of the blood urea estimation with the urea concentration test in the manner advised by Professor Hugh Maclean, (2) the blood pressure.

I suggest that the following considerations may guide us in regard to the question of inducing abortion: (1) A woman with chronic interstitial nephritis (azotaemic type) may be allowed to carry on under supervision with her first pregnancy. (2) In subsequent pregnancies early abortion should be induced if a serious renal breakdown—for example, uraemic manifestations—occurred in the previous pregnancy. (3) In any woman with chronic nephritis the occurrence in early pregnancy of albuminuria, and oedema of the renal type, justifies, if it does not actually require, the induction of abortion.

Bacillus coli Infection of the Urinary Tract.

This condition in its subacute form, which is not uncommon, does not lead to serious developments during pregnancy, although it is sometimes the cause of an acute outbreak of fever during the early puerperium which may closely resemble the onset of puerperal sepsis. I have, however, seen a case, early in the present year, in which abortion had to be induced, and the circumstances were so uncommon that it may be of interest to give them in brief outline.

The patient was a young lady about six and a half months advanced in pregnancy when I saw her in consultation. Earlier in her pregnancy she had had a very acute urinary infection which led to the formation of an abscess in the left kidney; this kidney was removed; she survived the operation without interruption of the pregnancy, and her general condition improved very greatly. All went well for six or seven weeks, and then fever reappeared, with acute pain in the right renal region, and the urinary signs of a *Bacillus coli* pyelitis. The patient had only one kidney; it was imperatively necessary to safeguard this kidney from further damage, and in view of the results of the first attack it was decided to terminate the pregnancy at once, which was done by Caesarean section, as the indications for intervention were urgent.

This case is, of course, quite exceptional, and I quote it only to show that a condition which as a rule is comparatively free from risk may nevertheless develop in such a manner as to threaten life.

Diabetes Mellitus.

I need say very little about this condition because, although in the past we have regarded it as one of the gravest intercurrent diseases in pregnancy, with the resources of insulin treatment at our disposal its risks have been very greatly reduced, though not, I believe, entirely eliminated.

May I remind you that the detection of sugar in the urine is not enough of itself to establish a diagnosis of diabetes? Glycosuria and lactosuria are not uncommon in pregnancy; they are not accompanied by an increase in the percentage of blood sugar, nor are they accompanied by the characteristic symptoms of diabetes, such as polyuria, thirst, and wasting. Glycosuria is apparently due in these circumstances to a lowering of the renal threshold for sugar, and I believe it is at present an unsettled question whether or not there is a risk in such cases of the subsequent development of a true pancreatic diabetes. A case of simple glycosuria is always amenable to dietetic treatment, and never forms an indication for abortion.

Heart Disease.

Valvular disease of the heart seldom calls for induction of abortion. A young woman with a well compensated valvular lesion will, as a rule, pass through one, or possibly two, pregnancies without suffering serious inconvenience. Repeated pregnancies, especially if they follow quickly upon one another, undoubtedly damage the heart and reduce the patient's expectation of life.

the twentieth week. Pregnancy should be avoided in active pulmonary tuberculosis. The pregnancy should, however, be allowed to continue in cases where the disease is arrested and facilities for treatment are available. The provision of continuous sanatorium treatment throughout pregnancy and after would do much to lessen the necessity for induction. Again, before sending patients to the obstetrician the physician ought to try all possible methods of direct treatment for the pulmonary condition—as, for instance, artificial pneumothorax.

Induction is useless if the disease is far advanced or of rapid course, as it is unnecessary to sacrifice the child. It is employed, not as a method of cure in itself, but a preventive of further advance of the disease. In my experience the infants are born healthy, but their standard of survival is lower than normal.

Heart Disease.—The obstetrician is frequently influenced by the physician to induce abortion, as the latter looks upon pregnancy as a disaster and labour an ordeal. I have modified my opinion regarding the serious effect of pregnancy upon heart disease; given sufficient rest during pregnancy the results are very satisfactory in most cases. The day of hurried delivery by forceps is past. In many cases the heart condition is little affected, and in some cases it is improved. In working women pregnancy is sometimes a safeguard, as it brings them under the care of a practitioner, and ensures rest and treatment. If signs of failure in compensation in early pregnancy appear, and medical treatment has failed, then the question of induction should be considered, especially in the case of a multipara. It is important to remove the element of fear from the patient. The interruption of pregnancy sometimes causes depression, and has a bad effect upon the heart. Caesarean section may be necessary if labour appears to be complicated. Sterilization of the patient is performed sometimes, but it is not always advisable, as the heart condition may so improve as to permit of pregnancy in a few years' time.

Nephritis.—If there is evidence of kidney damage induction may have to be performed, especially in multiparae. It is not uncommon, however, to have spontaneous abortion of the ovum. The continuance of foetal life in cases of severe nephritis is very uncertain.

Pyelitis.—The treatment is so successful in most cases that induction of early pregnancy is seldom required. Spontaneous expulsion of the ovum may occur if the temperature is high. Induction is risky owing to the possibility of auto-infection.

2. *Diseases due to Pregnancy.*

Toxaemia is very rare in early pregnancy. Most cases of vomiting are functional; if vomiting is due to toxaemia it is a very serious condition and induction should be performed.

Hydramnios occurs, but is rare in the early months.

Insanity may be due to toxaemia and should have appropriate treatment; it is rarely necessary to interrupt pregnancy for this disease.

In chorea abortion is rarely indicated; appropriate treatment gives better results.

In the Obstetrical and Gynaecological Unit of the Royal Free Hospital, out of 5,000 in-patients under treatment induction of abortion was performed 15 times. Of 29 cases of pulmonary tuberculosis, abortion was induced in 5 cases. Of 120 cases of heart disease induction was performed for failing compensation in 3 cases; 2 cases were induced for toxaemia and nephritis, one for progressive disseminated sclerosis, one for progressive tabes dorsalis with paralysis, one for epilepsy, one for arsenical poisoning, and one for acute hydramnios. Advice was given as to the avoidance of future pregnancies, and in some cases sterilization was carried out. *X* rays hold out a promise of effective sterilization in these cases without the risk of operative intervention.

Methods of Inducing Abortion.

The methods of induction of abortion may be divided into two headings—slow and rapid.

The slow method is much to be preferred, especially in cases of severe wasting disease such as phthisis, where haemorrhage has a harmful effect upon the recovery of the patient. Induction can be performed by tents, in many cases with successful results and without the onset of sepsis. The dilatation of the cervix by Hegar's dilators and the introduction of a gauze and glycerin drain causes the uterus to empty its contents subsequently with little or no haemorrhage. But it must be remembered that the stimulation of the uterus to contract and expel its contents is not always an easy accomplishment. A small rubber tube or large catheter inserted into the uterus sometimes acts very satisfactorily. In pregnancies in which the foetus is palpable induction may be brought about by passing the rubber tube, or by rupturing the membranes and pulling down a leg.

The rapid method of clearing out the ovum under anaesthesia, as is done in cases of incomplete abortion, is not advisable except in very early pregnancy, owing to the risk of haemorrhage and laceration in a patient already devitalized by disease. It almost comes under the heading of accouchement forcé. The operation of vaginal hysterotomy as described by Mr. Barris seems to be one of risk for a patient who is suffering from active pulmonary or advanced heart disease. The performance of abdominal Caesarean section for removal of a non-viable ovum does not seem to have many arguments in its favour.

III.—J. D. BARRIS, M.B., F.R.C.P., F.R.C.S.,

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Dr. Eden, in his address, has confined his remarks to the indications for the artificial termination of pregnancy before the viability of the foetus. We have now, therefore, to consider the methods by which the pregnancy may be brought to an end when the necessity for so doing has been established. As my remarks on this subject must be limited to a short space of time, they will deal with its broader aspects rather than its details.

The methods at our disposal fall into two groups—slow and rapid.

Slow Methods.—These consist of rupture of the membranes; plugging the cervix and vagina; dilatation of the cervix by means of laminaria tents or metal dilators or the small hydrostatic bag; introduction of small bougies; and administration of drugs alone or in combination with these methods.

Rapid Methods.—These include dilatation of the cervix, followed by rapid evacuation; vaginal hysterotomy; Caesarean section.

The principles by which we must be guided in our choice as to the particular method to be employed may be stated to be—first, to regard the early termination of a pregnancy as a labour in miniature. We must endeavour, therefore, if possible to make the uterus itself expel its contents rather than that we should drag out the ovum through the cervical canal, for to adopt the latter course as a routine would involve a greater risk of laceration, of haemorrhage, and of sepsis; nor is the ovum so likely to be removed completely. Secondly, we must bear in mind that we are not dealing with a woman in as good general health as we usually are when inducing premature labour for contracted pelvis, but with a woman whose resistance has been lowered in many cases by some general disease or by previous loss of blood. Our intervention, therefore, should be of such a nature as will entail the least strain on her already lowered resistance and the least risk of injury or further haemorrhage.

The application of the foregoing principles is governed by two factors: (1) The urgency of the need for the termination of the pregnancy—that is, whether a slow or rapid method is necessary. (2) The date of the pregnancy—that is, whether the period of the gestation is before or after the end of the first three months. Of these two factors the former is not as a rule of so much importance as the latter, for this involves the size of the foetal head and the degree to which the dilatation of the cervix may be necessary. This is the essential point, and methods which may be not only legitimate but desirable during the first three months may be unsuitable and even dangerous at a later date.

Haemorrhage.

It would not be appropriate to our subject for me to say much about uterine haemorrhage. According to our classification bleeding without signs of uterine action constitutes a "threatened abortion," which is not quite what we are discussing. When, however, in a threatened abortion, active treatment is resorted to, this is hardly distinguishable from induction.

I should like to say this—that my experience is that very free haemorrhage in the early months of pregnancy does not, in all cases, result in abortion. I recollect the wife of a colleague of mine having a really alarming bleeding at two and a half months, so severe that I did not think it possible that the ovum could have survived it. My colleague, who was a general physician, was unwilling that active treatment should be resorted to, and in the event he was justified, for the child was carried to term and she is now herself a mother. I think, therefore, that we should never be in a hurry to interfere with a threatened abortion because it is attended at the onset by severe bleeding. Persistence of bleeding is of more serious import for the life of the ovum than an initial smart haemorrhage.

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II.—A. LOUISE McILROY, M.D., B.Ch., D.Sc.,

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DR. EDEN has given us what we expected of him—a moderate and well balanced opinion on the indications for the induction of therapeutic abortion. He epitomizes to a great extent the opinion of a large majority of the medical profession.

The subject is of very great interest owing to the diversity of opinions held by practitioners of different nationalities. It has many difficulties, as it is easy to generalize and take a definite line of conduct in a debate; but when faced with an actual patient whose many interests come under consideration no hard and fast rule can be adhered to. Each individual case must be judged on its own merits, and the rule that applies to medical treatment in general must be applied here—namely, that the patient must be treated, and not the disease.

It may be taken as understood that every practitioner, for ethical reasons, is unwilling to perform the operation of induction and is only driven to it by dire necessity. It is a confession of failure and shows the limitations of our knowledge with regard to the treatment of disease. There is no doubt that as scientific research advances the indications for induction of therapeutic abortion will in time diminish almost to vanishing point. Everything depends upon the severity of the condition, the result, and more especially the failure, of treatment. The surroundings of the patient, the facilities for efficient treatment, all must be borne in mind and due consideration given to the conditions which would enable her to endure, or prevent her enduring, a pregnancy without risk to her health or life.

Each case must be given consideration, and the onus of advising intervention should be undertaken by the obstetrician only after consultation with a physician or, possibly, a clinical pathologist. Induction of abortion should not be a substitute for efficient treatment otherwise. Too frequently patients are sent to the obstetrician for the performance of the operation before other methods of treatment have been given a fair chance.

In this discussion I have adopted an arrangement that is somewhat different from that of Dr. Eden in that I do not include under the present classification those cases of induction in which the ovum is already dead—namely, vesicular mole, haemorrhage from separation of the ovum or placenta, and missed abortion. They do not present the same controversy, nor do they involve the same ethical aspects as are found in the case of the living ovum.

Dr. Eden says we must revise our ideas as to induction from time to time so as to keep abreast with the advances of modern medicine which are constantly presenting new methods of successful treatment in other directions. We are now beginning to recognize that the ovum is only a temporary lodger and that its advent has not always the disastrous or malignant effect upon the maternal organism our medical forefathers were wont to believe. In my own experience, as the years go on I tend more and more to reduce the number of cases of induction of abortion, in the light of a wider knowledge concerning the conditions of pregnancy.

There are three aspects of the question to be considered—the legal, the ethical, and the therapeutic.

The legal aspect is that induction of abortion is always against the interest of the State, therefore legislative measures and precautions have been taken to prevent its performance except in cases of medical necessity. It is a criminal offence. The practitioner should make sure of his ground when confronted with a patient who is desirous of obtaining an interruption of her pregnancy. In all cases whenever possible he should secure a second opinion. In the experience of most of us women have sought our advice and tried to convince us that the pregnancy might result in suicide or great mental strain and possibly mental breakdown. While every sympathy is given to the case which Dr. Eden quotes, that of a married woman, I would like to be able to extend the same attitude of mind to a woman who comes to us distracted because of the occurrence of pregnancy after rape by an unknown assailant. It is just in such cases that complications with regard to the legal aspect of the case arise.

In my practice I have always had conscientious scruples against the performance of induction of abortion, and I teach my students the value of serious consideration before undertaking the operation. No social or economic interests apart from the medical needs of the case should be taken into account. We should not be influenced by any likelihood of defect in the character of the offspring. If completion of gestation is undesirable for medical reasons, we should urge the avoidance of subsequent pregnancies, and the necessity for abortion at future dates would therefore be eliminated. If this course is impossible, the question of sterilizing the patient has to be discussed, and in some cases sterilization is the only course to be adopted. We must not be influenced by the consideration that if we do not perform the operation of induction the next consultant will.

Advanced knowledge has led to treatment of retroversion of the gravid uterus, for example, which is in accordance with ethical teaching—and there is no doubt that a course which is attended with some difficulties to-day will be the recognized method to-morrow. Our present knowledge is limited, and we have perforce to perform induction of labour in a few cases however reluctant we may be to resort to the expedient.

The medical aspect of induction divides itself into two headings—namely, (1) induction for disease complicated by pregnancy, and (2) induction for disease due to pregnancy.

1. *Induction for Disease Complicated by Pregnancy.*

In such cases we must remember that the ovum is of the nature of a parasite to this extent—that it will look after its own interests before that of its mother. During gestation extra strain is thrown upon the maternal excretory organs, more especially in cases of defective renal function and in heart disease. We have to consider, not only the immediate condition, but the effect of pressure and increased strain in late pregnancy.

I am glad Dr. Eden took up the question of pulmonary tuberculosis first, as in my opinion it is now one of the few conditions in which induction is indicated. Acting in consultation with a chest specialist, and provided no alternative treatment is prescribed by him or is available, completion of pregnancy being likely to interfere with cure, one would certainly adopt it.

In my experience the occurrence of pregnancy is a calamity in active phthisis, especially in hospital practice. The well-being is often fictitious, especially in multiparae. The course of the disease—due to a virulent organism—is often rapid after delivery, as resistance is low, and the end may be fatal. Induction should be performed before

the end of pregnancy. The result of this is that the heart has more work to do. The displacement of the apex beat and of the left border can be accounted for, at least partially, by the displacement of the heart. It is generally believed that it may be due partly to dilatation. Mackenzie has shown that this affects more especially the right side of the heart, and that not infrequently, even in healthy subjects, a certain amount of relative tricuspid incompetence may occur from time to time according to the condition of the patient. It is necessary to point out that what are called "crepitations" heard over the bases of the lungs, which disappear after a few breaths, are not indicative of oedema of the bases of the lungs; when they do not disappear after deep breathing they are indicative of oedema, collapse, pneumonia, or bronchopneumonia. A certain amount of shortness of breath on exertion after the twenty-eighth week of pregnancy is an almost normal occurrence. Oedema of the lower extremities, usually slight, but occasionally very considerable, may occur during pregnancy. This may be due to pressure of the uterus on the pelvic veins, but when it extends above the knees it is the result of albuminuria, or, less frequently, of cardiac failure. Varicosity of the veins of the lower extremities and of the vulva may be observed, as the result of pressure of the uterus on the pelvic veins. It is therefore to be observed that displacement of the apex beat and of the left border of the heart, increased transverse diameter of the area of cardiac impairment, the occurrence of a systolic murmur with its point of maximum intensity in the tricuspid area, crepitations over the bases, disappearing after a few breaths, a certain amount of shortness of breath after the twenty-eighth week, oedema below the knees, and varicosity of the lower extremities and of the vulva occurring during the course of pregnancy are not necessarily indicative of cardiac failure. An additional strain is thrown upon the heart during labour. The first stage does not involve much strain; it is the second stage which involves most strain. During the third stage there is a fall in the blood pressure, with a coincident tendency to collapse. Lastly, the puerperium involves a certain amount of strain on the heart. Acute cardiac failure, including acute pulmonary oedema, may occur immediately, or a few days after delivery. Notwithstanding the foregoing—taking the cases as a whole—the subjects of cardiac affections stand child-bearing surprisingly well.

It is of fundamental importance to recognize that the essential cause of cardiac failure lies in the heart muscle. If that be so, the importance of the relation which chronic valvular disease and disturbances of the cardiac mechanism, such as auricular fibrillation, bear to the myocardium can be readily understood. In a case of chronic valvular disease it is of the utmost importance that we should endeavour to ascertain whether, along with the valvular lesion, there are coincident changes in the myocardium, or blood vessels, or both, and if so, in what degree. But while I would emphasize this, it is necessary to point out that a valvular defect is a mechanical impediment to the work of the heart muscle, and may be of great importance in itself. In attempting to form a prognosis in any given case of chronic valvular disease, the nature and degree of the lesion, its mode of origin, the degree of any existing cardiac failure, the existence of complications, and the risk of sudden death, require consideration. Among the points which may be of assistance in trying to form an estimate of the extent of the lesion are to what extent the character of the pulse and the blood pressure are modified, and the size of the heart; and, in the case of aortic incompetence, the pulse pressure, and, in the case of mitral stenosis, the length of the presystolic murmur, and the presence and length of a diastolic murmur.

I have been surprised at the comparative frequency with which chronic myocardial disease occurring by itself is missed—in my opinion, due to a lack of appreciation of the great importance of determining accurately the size of the heart. Now, with regard to whether the myocardium is involved—either accompanying chronic valvular disease or by itself—it is of extreme importance to ascertain how the heart responds to effort; in other words, the amount of physical exertion in which the patient can indulge without experiencing symptoms of cardiac distress. In the great majority of cases the first indications of heart failure are symptoms of cardiac distress on exertion, and it is only afterwards that objective signs—such as increased pulse rate, dilatation, or dropsy—appear. These symptoms recur as the result of less and less effort, until ultimately some or all of them are present during rest, and objective signs also become evident. It might be helpful if I indicate what, speaking broadly, and without reference to pregnancy, may be regarded as clinical manifestations of four degrees of cardiac failure—namely, slight, moderate, severe, and extreme.

Slight.—Shortness of breath, palpitation, exhaustion, and, it may be, precordial pain, on exertion which the patient formerly could undergo without experiencing this.

Moderate.—Shortness of breath, palpitation, and, it may be, cyanosis, on moderate exertion, such as walking quickly on the level; puffiness round the ankles in the evening; some degree of increased rapidity of the pulse while at rest; slight enlargement of the liver.

Severe.—Shortness of breath on slight exertion, such as walking at the ordinary rate on the level, or on changing position in bed; cyanosis while at rest; a considerable degree of oedema of the lower extremities in mitral cases, and a moderate degree in uncomplicated aortic cases; a considerable degree of tachycardia while at rest; oedema of the bases; a moderate degree of hepatic enlargement; albuminuria; orthopnoea; cardiac asthma.

Extreme.—Continuous shortness of breath; severe dyspnoea on slight exertion; marked cyanosis while at rest; general anasarca in mitral cases, and a considerable amount of oedema of the lower extremities in uncomplicated aortic cases; oedema of the serous membranes; much hepatic enlargement; pulsus alternans in the absence of a severe grade of tachycardia.

A point of the utmost prognostic importance in angina pectoris is the ease with which the pain is provoked, and whether it occurs even when the patient is at rest. It remains to add a few observations. The first sound may be short, sharp, and clear, and diminished in intensity when the contractile force of the ventricle is reduced. What is called the tic-tac heart beat or foetal rhythm signifies a greatly impaired vitality, and is often of grave omen. What is termed the gallop rhythm indicates either a failing heart muscle, or a bundle-branch block, or possibly intraventricular block, and is almost always of very unfavourable import.

We now pass to the consideration of the individual cardiac affections.

Irregular Action of the Heart.—I am here referring to irregular action of the heart in itself—that is, without reference to the cause or the condition with which it may be associated. What is called sinus irregularity and also extra-systoles may be disregarded. The three grades of auriculo-ventricular block, bundle-branch block, and intraventricular block are indicative of myocardial damage, and in each case it depends upon the degree of associated myocardial disease. It is necessary, however, to add the following: In complete auriculo-ventricular block, if the patient is subject to syncopal attacks—especially if during the period of development of the condition—pregnancy should be terminated. The prognosis of bundle-branch block is usually very unfavourable. Intraventricular block is almost always of grave import, and pregnancy should be terminated. From the point of view of our discussion there are two kinds of pulsus alternans—namely, one in which the condition is associated with a severe grade of tachycardia, and the other in which it is not. In the latter event it is an indication of extreme exhaustion of the heart muscle, and should be regarded as an imperative call on the part of the heart for rest—complete and prolonged. If this is not possible, or if it is not successful, pregnancy should be terminated. With regard to auricular fibrillation, it depends upon the ventricular rate, the degree of any existing cardiac failure, and the response to digitalis therapy. If there is an absence of tachycardia, or tachycardia is at the most moderate, or tachycardia of more severe grade is well controlled by digitalis, and if the degree of cardiac failure is at most moderate, pregnancy may be allowed to continue; while if there is severe tachycardia uncontrolled by digitalis, or severe cardiac

Induction Before the End of the Third Month of Gestation.

The uterus can be evacuated readily by the rapid method during the first three months of pregnancy. In this case the ovum is small, and its tissues are of no great density; the head of the foetus will therefore be small and easily collapsible. The degree to which the cervical canal will require to be dilated will in consequence not be great. The uterine cavity will not be too large for the finger to be able to explore its walls completely, and the ovum can be separated readily from its attachments.

The slower methods, although satisfying an underlying principle in that they aim at exciting the uterus to contract and expel its contents spontaneously, are not therefore so definitely indicated. Nor are they always to be relied upon at this early date, for they may fail to excite uterine contractions, with the result that repeated manipulations may be necessary, entailing delay and an added risk of sepsis, so that operative measures may be required to complete the process. Furthermore, it is during the early period of pregnancy that the need for the termination of the pregnancy is more likely to be urgent, so that a more rapid method is required.

During the first three months of gestation, therefore, I think you will probably agree that we are justified in advising that dilatation of the cervix and immediate evacuation of the uterus is the best method. A set surgical technique with strict antiseptic precautions is necessary. A laminaria tent may be needed to aid the subsequent dilatation of the cervix by metal dilators. The dilatation should be sufficient to allow the gloved finger to pass, but the finger must not be forced through or severe lacerations in the region of the internal os and lower uterine segment may result. When the ovum has been gently detached by the finger it may be squeezed out of the uterus or withdrawn by the ovum forceps. The instrument must possess no sharp gripping points, otherwise a portion of the uterine wall may be grasped. Perforation of the uterus and the seizure of bowel have occurred. The decidua should, if possible, be separated by the finger, but the use of a blunt curette may be required; the sharp curette should on no account be used. A case has been under my own observation in which the uterine wall had been scraped through and the bowel damaged owing to the use of the sharp curette. When the uterus is empty the bleeding, which is often profuse, should be controlled by massage of the uterus and a hot intrauterine douche. Plugging may be required temporarily to control the bleeding. The anaesthetic employed should not be chloroform; it is preferable to use ether, or gas and oxygen.

Induction After the Third Month of Gestation.

The evacuation of the uterus after the third month of pregnancy is a far more difficult problem. We are now dealing with an ovum which is larger, and its tissues are of greater density. The foetal head will therefore be both larger and harder. The degree to which the cervix must be dilated will now be considerably greater, and, if it is stretched too rapidly, severe laceration at the level of the internal os extending into the broad ligament and dangerous haemorrhage may result. The uterus also is now much larger, and it will not be possible to feel all over its internal surface with the examining finger owing to the size of the cavity being too great. Complete separation of the attachments of the ovum cannot, therefore, be assured, so that serious haemorrhage may accompany the manœuvre and portions of the placenta may be left behind. Since, also, the foetus is easily broken up at this stage of gestation and the cavity cannot be explored with certainty, it is possible that portions of the foetus may be overlooked. The foetal head may become detached and it may be extremely difficult to bring it out through the cervix. Although it is difficult to credit it, cases have been recorded in which the foetal head has been left behind and passed spontaneously subsequently—an occurrence difficult to explain satisfactorily to the patient. These manipulations, involving as they do a greater risk of damage to the maternal tissues, bring in their train also an added risk of sepsis. While, therefore, we are justified in advising dilatation of the cervix and evacuation of the uterus before the end of the third month, we are not justified in using this procedure after this date. Even at the earlier date this operation is associated with considerable bleeding and is very repugnant, but after the third month it is fraught with such dangerous risks to the mother that its employment is to be avoided if possible.

In the rare instances when it is necessary to evacute the uterus rapidly after the third month it is far safer, after having dilated the cervix as much as possible, to incise the anterior fornix transversely, strip up the bladder from the front of the cervix, and then divide the anterior lip of the cervix longitudinally so as to expose the uterine cavity. The membranes should now be punctured, the foetus gripped by a leg, and the uterus evacuated. This operation of vaginal hysterotomy enables us to empty the uterus completely with no risk of lacerating the maternal tissues, and is to be preferred at this stage of gestation to an abdominal Caesarean section.

The slower methods of terminating the pregnancy are, however, more usually indicated at this stage. Of these the best is to insert the small hydrostatic bag through the cervical canal after it has been dilated either by means of a laminaria tent or by metal dilators. It is advisable to insert the bag without rupturing the membranes, and its action may be assisted by the use of pituitrin. The other slow methods are not so reliable and may involve repeated manipulations and a greater risk of sepsis. If the pregnancy requires to be terminated on account of a carneous or vesicular mole the insertion of a laminaria tent in combination with pituitrin will usually induce the uterus to expel its contents spontaneously. The use of castor oil and quinine has also been recommended by some authorities, but I have not personally found it so reliable in these two conditions. In the case of a vesicular mole the evacuation of the uterus by abdominal Caesarean section has been employed with very satisfactory results.

IV.—FREDERICK W. PRICE, M.D., F.R.S.Ed.,

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Cardiac Indications.

The subject of cardiac affections in relation to marriage, pregnancy, labour, and the puerperium is of great importance to the medical practitioner. He is sometimes consulted by those who suffer from some cardiac affection about the question of marriage, or, in the event of marriage, whether pregnancy should be risked—either with regard to a first child or to further pregnanceis. If pregnancy has occurred, he may have to decide whether it should be allowed, if possible, to go to term, and as to the best method of delivery, or whether abortion or premature labour should be induced, and as to the best method of emptying the uterus. Furthermore, the responsibility of the management of the pregnancy, the labour, and the puerperium rests upon him. The subject I have to deal with is limited to the cardiac indications for the termination of pregnancy before the viability of the child. I should also like to confine my remarks to the question of the risk to the mother's life, not dealing with that relating to her health after the puerperium.

It will be readily understood that pregnancy, labour, and the puerperium impose a strain upon the heart, even when the organ is healthy. Various factors contribute to this. During pregnancy there is an increase in the body weight, and in the circulation. The growing uterus gives rise to a gradual increase of pressure in the abdomen. It also causes a gradual raising of the upper level of the diaphragm, and interferes with its descent. The upward displacement of the diaphragm causes the position of the heart to become more transverse, and, as a result, the apex beat may appear in the fourth intercostal space and the left border may be displaced outwards. The chest wall becomes widened (Mackenzie). The combined result of the displacement of the heart, the diminution in the descent of the diaphragm, and the widening of the chest wall is an interference with the free movements of respiration. The foregoing factors together act as a mechanical impediment to the carrying on of an efficient circulation, which increases towards

go through with it; she is generally of an hysterical temperament. In spite of threats of self-destruction I believe the right course is that she should be managed by nurses, and that interference with the pregnancy is scarcely ever justifiable until at any rate the child is viable, when I have known Caesarean section and tying of the tubes meet the requirements.

There is another class of phobic cases belonging to the obsessional group. If in such a case the medical opinion formed as the result of consultation, that the morbid fear of death as the outcome of pregnancy is so overpowering as to endanger the patient's life, operative intervention may be indicated. I have seen such a case similar to that quoted by Dr. Eden which he rightly denotes psychopathic. The patient was an elderly primipara, and her fixed idea was having such a profound influence on her bodily health that it seemed possible that she might not survive—and therefore premature labour was induced at the fourth month, as psychotherapy had failed.

Concerning cases in which a previous attack of insanity (or even more than one) has occurred, especially after labour and in borderline cases with bad family histories, I feel obliged to dissent from the view expressed in Dr. Eden's paper—that labour should be induced before the child is viable, unless there are other indications regarding the patient's bodily health. It is open to doubt whether mental disorder would be less liable to occur by premature intervention than after the seventh month or at full time. It is true that we advise that a woman with a strong family history of insanity or one who has had an attack of puerperal insanity should as a rule avoid the risk of becoming pregnant again, but, should this happen, I hold the view that the condition should be allowed to continue. It must be acknowledged that the chances are more than even that there will not be a recurrence of mental trouble. If, however, unfortunately this should occur, it must be remembered that the recovery rate is fully 75 per cent. in these puerperal cases, and the question of some such procedure as obliteration of the tubes to prevent future pregnancies might be considered.

I now allude to a question which apparently is receiving reconsideration. The incident occurs now and then where an insane husband, home on leave from an institution, results in his wife falling pregnant. She becomes distracted at the prospect of bearing a child who she thinks may be mentally defective or become afflicted, and she is haunted by this idea, which becomes a veritable obsession. The first case of this kind in my practice occurred many years ago where the husband had a short remission in general paralysis and the mental state of the wife caused anxiety. This I was able to disperse and she went to full term, and the boy that was born subsequently won an open scholarship at a public school. In the case of a lady who was sent to consult me lately the husband, a chronic delusional patient with a wretched family history, was allowed home on leave from a mental hospital with the same result, that his wife conceived and she was in terror of bearing an afflicted child. Again I considered the grounds for intervention quite inadequate, but I have heard later that a "natural" miscarriage has taken place—whether in this country or abroad I know not. My advice has similarly been sought regarding the fate of the unborn where one of the parents was a chronic epileptic and contraceptive measures failed, but we are yet without sufficient eugenic data to yield to the plea that a pregnancy should be terminated to prevent the birth of a child that might be mentally defective or diseased.

With regard to the types of insanity during pregnancy, my experience is that manic-depressive and dementia praecox are most usual. Should exhaustion symptoms ensue in the first months of pregnancy owing to the severity of the mental disorder I very much doubt whether the termination of the pregnancy would be beneficial, and it might, indeed, make matters worse. Refusal of food, insomnia, and suicidal tendencies are symptoms that require the most urgent attention, but in my view the pregnancy should be allowed to continue. Eliminatory treatment and baths are particularly useful, and a change from home surroundings is often beneficial, especially, as sometimes happens, when the presence of the husband is not helpful.

Dr. Eden's paper, coming from so high an authority, has given us food for reflection. It is no doubt agreed that each case should be considered on its merits, and that we should guard against any narrow-minded attitude. Yet I feel there is a danger that our sympathy can be unduly extended and may warp our judgement, if too much stress is placed on the possible prejudice to the patient's future health. In many cases this is problematical, at any rate having regard to mental health, and it seems to me that it might be capable of being construed in such an elastic sense and applied to improper cases, so that, if generally accepted, it would lead to abuses or laxity in practice, and result in serious comments on our privileged position as medical practitioners.

It cannot surely be granted that an embryonic child should be sacrificed because the mother has had repeated pregnancies at short intervals and is unwilling to face the ordeal. The proposition that some parents hold, that their unborn child should be completed or not as they like, cannot be squared with our ethical or legal standards. We as doctors have no right to curtail a pregnancy before the child is viable, except for bona-fide reasons, which I believe still to be limited to the ill health of the mother jeopardizing her life, and any widening of this principle by entertaining other excuses I regard as contrary to generally accepted opinion even with the advance of medical and sociological knowledge.

Our duty, no doubt, is first towards the patient, but we must bear in mind that she is carrying the germ of another being which demands our consideration, and which the State safeguards by legislation. Whatever may be said as regards tubercle, renal or other disease which may interfere with the life of the mother during pregnancy, it is the exception rather than the rule with brain or mental conditions unless accompanied by disease of other organs.

VI.—H. HARVEY EVERS, M.S., F.R.C.S.,

Newcastle-on-Tyne.

IT seems to me that unless we are extremely careful the tendency of this important discussion will be to multiply the indications for what we all agree is a very undesirable and distasteful operation. This would be a most dangerous impression to create at a meeting of such eminent obstetricians, whose most important function, in these days, is the safeguarding of the human ovum. I would submit, therefore, that we should endeavour to inculcate and emphasize extremely conservative views, and lay down as few indications as possible for this operation of "embryocide" or "ovicide." No purely speculative reasons or excuses for emptying the uterus should be entertained for one moment. The procedure should be most rigidly confined to those conditions where it has absolutely proved its value beyond any shadow of doubt. These conditions, I would submit, are extremely few.

Furthermore, I would suggest that the burden of proof of indication or justification rests always with those who recommend the operation, and many of the reasons given thus far have been largely speculative and very unconvincing. Holding these views, I will perhaps be tolerated if my criticisms are largely of the destructive variety.

Dr. Watts Eden even raises the ethical question "as to what extent we as doctors have the right to insist that a woman should pass through an ordeal which she is unwilling to face"—though why he should call pregnancy and labour "an ordeal" it is difficult to understand. Surely this question is neither ethical nor professional, but strictly legal and moral; and such a doubt raises the most dangerous possibilities, as the vast majority of women with one or two children are unwilling to face this so-called "ordeal." Moreover, Dr. Eden's instance of the distinguished barrister's wife is, to my mind, most damning evidence against such a point of view. A patient's or her husband's reasons for getting rid of an ovum should never be accepted, as there will generally be some selfish or sinister reason undisclosed. Again, with regard to psychopathic disturbances, Dr. Eden's instance, to my mind, merely serves to emphasize the folly of warning patients

failure—especially if it increases in spite of adequate treatment—pregnancy should be terminated. In the case of persistent auricular flutter, it depends entirely upon whether treatment for terminating the condition is successful or otherwise. With regard to an individual who is the subject of paroxysmal tachycardia, it depends chiefly upon (1) the existence of chronic myocardial or chronic valvular disease, and, if either be present, its nature and degree; (2) to a less extent, upon the average duration, the ventricular rate, and the degree of cardiac failure during former attacks; and (3) the success attending treatment for the prevention of the recurrence of the attacks.

Chronic Valvular Disease without Reference to any Existing Cardiac Failure.—It is generally agreed that, with regard to pregnancy, mitral stenosis is the most serious form of chronic valvular disease. This lesion puts a greater strain upon the right side of the heart, pulmonary complications are frequent, and, as I have already pointed out, cardiac dilatation during pregnancy affects mainly the right side of the heart. It should, however, be noted that there may be other factors, such as the frequent association of auricular fibrillation, and, of less common occurrence, chronic adhesive pericarditis. It is justifiable to terminate pregnancy when the degree of the lesion is severe—as evidenced by a very small pulse together with a murmur beginning immediately after the second sound and continuing all through ventricular diastole and auricular systole, especially if the lesion is not the result of antecedent acute endocarditis and is progressive, or there is also auricular fibrillation, mitral incompetence, or chronic adhesive pericarditis. In mitral incompetence pregnancy may be allowed to proceed, unless the degree of the lesion is very severe. The same applies to aortic stenosis when it is due to antecedent acute endocarditis and not the result of primary chronic endocarditis. In aortic incompetence it is permissible to terminate pregnancy when the degree of the lesion is severe, as evidenced by a great alteration in the character of the pulse and of the blood pressure and the size of the heart, and much more so if the lesion is not due to antecedent acute endocarditis; or if the patient is subject to severe syncopal attacks associated with physical exertion. In the case of congenital morbus cordis, it depends upon the size of the heart and the degree of subjective symptoms. I may say that I have known of several patients with patent ductus arteriosus who have borne several children well.

Chronic Myocardial Disease by Itself.—In the consideration of this condition, the size of the heart and whether the patient is subject to syncopal attacks are important. It is in chronic myocardial disease that the modifications of the cardiac sounds and cardiac cycle, the presence or otherwise of auriculo-ventricular block, branch-bundle lesion, intraventricular block, auricular fibrillation, auricular flutter, paroxysmal tachycardia, and the degree of cardiac failure are of especial value.

The Existence and Degree of Cardiac Failure.—I am fairly confident that with regard to cardiac indications the usual practice of most of my audience is to be guided by the existence and degree of cardiac failure, and I can quite understand this. Whenever indications of cardiac failure present themselves during pregnancy, four points should invariably be taken into consideration—namely: (1) the degree of cardiac failure; (2) at what stage of pregnancy these have supervened; (3) the immediate cause of the present attack; and (4) the response to treatment. With regard to the third of these, inquiry should be made as to whether this can be attributed to some temporary cause, such as a period of undue physical strain, or some intercurrent malady, or whether the symptoms have gradually appeared without any such cause; in the latter event the prognosis is less favourable. In the case of the first degree of cardiac failure, at whatever stage it occurs, in all probability it will be possible for the patient to proceed to full term without risk to life. If the second degree occurs during the first half of pregnancy—more especially during the first three months and without some temporary cause for the cardiac failure—it is unlikely that the patient will be able to proceed to full term, but an attempt may be made; if it occurs in the second half, it is probable that she will. In either case rest is imperative for a period which may even extend to some months. If the severe degree occurs in the first half of pregnancy, it is exceedingly improbable that the patient will be able to proceed to full term; but even in this case, providing she is able and willing to rest in bed for some months, it is surprising how often a favourable issue will follow; if it occurs in the second half, an attempt should certainly be made. If an extreme degree is present at any stage, pregnancy should undoubtedly be terminated. It remains to add that, except in the case of an extreme degree of cardiac failure, it should be accepted as a general principle that pregnancy should not be terminated until a reasonable period of rest and other therapeutic measures have been tried; while, on the other hand, in the case of the second and third degrees, if proper treatment, carried on for a reasonable period, is not attended by at least a certain measure of improvement, or if a relapse occurs, the termination of pregnancy should be more favourably considered, especially in the case of mitral stenosis.

Lastly, I would suggest that in any case in which it has been decided to terminate pregnancy an attempt should first be made to treat the existing cardiac failure, in the hope of affording a better chance of a favourable result of the induction of abortion or premature labour.

V.—ROBERT HENRY COLE, M.D., F.R.C.P.,

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THE PLEA OF INSANITY.

INSANITY during pregnancy is a somewhat rare affection, comprising less than 1 per cent. of the total incidence of insanity in women. Although cases are occasionally to be seen in our public mental hospitals where the pregnancy invariably runs its usual course, our individual experience of cases in consulting practice must necessarily be small. Yet pregnancy accompanied by mental disorder of a mild type, as exhibited by subacute depression, morbid yearnings, or transient perversions of one kind or another, is not uncommon, and one would expect that such disorder might easily pass over the border-line, which, indeed, happens in exceptional cases. I think most of us are agreed that when those cases develop, as they usually do, in the earlier months of pregnancy they often clear up after a few weeks and generally before delivery.

The fact that an insane woman has unfortunately been allowed to conceive does not alter her mental condition, as I have observed in the case of a wife suffering from delusional insanity who lived at home with her husband. How far insanity is the outcome of pregnancy it is difficult to say with precision. The association is much clearer as regards cause and effect when mental disease ensues after labour or during lactation. Nature, indeed, ever mindful of the continuance of the race, endows incipient motherhood with increased vitality which counterbalances the anxiety, discomfort, or stress of the pregnant state, and cases of insanity during these months seldom arise in the absence of bodily ill health or a bad inheritance or previous attacks. It would seem, therefore, that a psychosis might eventuate if the patient were not pregnant at all. In the later months of pregnancy, if insanity develops, experience teaches that in recoverable cases it usually persists for some time after the birth of the child, whether the patient be prematurely delivered or not.

In the case of the unmarried girl who has been wronged, or has gone wrong and finds herself pregnant, medical advice is sometimes sought to terminate the condition to alleviate her mental distress, apparently in complete ignorance of the law governing these matters. Illegitimacy or desertion is regarded as one of the minor factors in puerperal cases; but the desperate mental state which the unfortunate single girl sometimes develops, which doubtless would disappear by removing the cause, is harrowing to one's feelings, but I have so far seen no such case in which operative intervention would be justified. It cannot be said that suicidal threats or even attempts *per se* indicate insanity. We are sometimes consulted regarding a young married woman who, finding herself pregnant, is in fear of childbirth, and says she would rather die than

for consideration—one borrowed from Pinard: "Treat the disease and manage the pregnancy." The other he would like to think original, though it was perhaps unconsciously stolen—"Prevention is better than abortion."

Dr. R. C. BUIST (Dundee) said that the appeal of the consultant to the general practitioner was, "When you refer a patient for consideration of the question of terminating pregnancy do not foreclose the question and prejudice the issue by expressing an absolute opinion."

Dr. BINNIE DUNLOP (London) was one of those who did not feel that there was any ethical or moral objection to terminating a pregnancy before the viability of the child. He considered it an indication of the desirability of this merely if the woman wished it, or rather if the woman could not be persuaded to desire the pregnancy to go on. It was not in the public interest that medical practitioners should not be free to terminate a pregnancy on economic and eugenic grounds as well as on purely medical grounds. It would be better for the race if undesired children were not born. An appalling amount of unhappiness and ill health resulted from medical practitioners not being legally perfectly free in the matter.

Dr. J. S. ENGLISH (Singapore) had never performed anterior hysterotomy. He had always found dilatation to No. 12 and packing with tents sufficient, the ovum being removed in twenty-four hours with ease. After twenty weeks' pregnancy he always used a No. 13 stomach tube, which could be easily sterilized—an obvious advantage over the usual gum-elastic bougies which were generally advocated. Before being shown this method by Dr. FitzGibbon in the Rotunda Hospital he had a good deal of experience of Kraus's method, and many times had to remove the bougies and reinsert them, possibly three times. Using the stomach tube, however, he had yet to see the case where labour had not come on in twenty-four hours at most. The only difficulty was when the tube touched the membranes and a sense of resistance was felt. That was overcome by rotation of the tube on its long axis, and the tube then slipped in easily. The whole tube was inserted and removed only when the cervix was half dilated. If any difficulty was experienced in its removal the tube could be pushed past the presenting part and would be delivered after the child. An anaesthetic was only necessary in primiparae.

Mr. L. C. RIVETT (London) had not had much experience of pulmonary tuberculosis, but such cases as he had seen led him to believe that the puerperium was more detrimental than the pregnancy, and that it was as much so after a three months' abortion as after full term; termination of pregnancy was therefore very limited in this complication. Dr. Eden said that it was not to the advantage of the community that children should be born who had seven times the normal risk of contracting phthisis. Was it the province of the doctor to decide this? If so, what about syphilis? He suggested that if any condition rendered it inadvisable for a woman to become pregnant the Fallopian tubes ought to be tied, or the ovaries treated with *x* rays. He raised the point of gross deformity of the pelvis or tumours which absolutely precluded delivery *per vias naturales*. If the patient refused to submit to Caesarean section at term, were they justified in terminating the pregnancy early? or was it their duty to insist on Caesarean section later? As regards cardiac lesions, he was in agreement with Dr. Price's remarks. At Queen Charlotte's Hospital many patients were admitted in a state of extreme cardiac failure, and died in spite of any medical treatment, either undelivered or after delivery—sometimes six weeks after delivery. His experience in this class of case made him conclude that cardiac failure was the most serious complication of pregnancy. He advised a miniature Caesarean section—in opposition to Professor McIlroy—at the same time ligaturing the tubes. Patients stood this operation well in early pregnancy. He preferred general anaesthesia to spinal, as spinal anaesthesia lowered the blood pressure in cardiac cases. Every pregnancy was a strain on the diseased heart, and left it worse than previously; the aphorism of Dubois, quoted by Dr. Eden, was particularly applicable to heart disease. He called attention to polycystic disease of the kidney—where one kidney had been removed and pregnancy subsequently occurred—as an indication to terminate pregnancy. In reply to a question by Mr. Norman Lock (Exeter), Mr. Rivett stated that he did not think Caesarean section at term in cases of cardiac failure had any advantages over normal labour; the patient was just as likely to die after either.

Mr. NORMAN LOCK (Exeter) said that, in his experience, a well given general anaesthetic was well borne by patients with heart disease, even when advanced, and therefore suggested that Caesarean section would be the best method of treatment of these patients, thereby avoiding the muscular strain and exertion of labour.

The PRESIDENT remarked that the importance of the discussion was obvious when it was realized that, as soon as the papers read and the remarks made were published in the BRITISH MEDICAL JOURNAL, medical practitioners would have at their disposal the collective opinion, as to when abortion should or should not be induced, of some of the greatest experts in their own special line of medicine—an opportunity which, as far as he remembered, had never occurred before. The President deprecated most strongly the reprehensible conduct of telling a patient that in no circumstances must she ever have another child, and this without seeking the opinion on this point from a colleague. He was consulted not infrequently by patients who were most anxious to have more children but dared not, or if they again became pregnant implored for abortion to be induced. Why? In the majority of cases for such unwarrantable reasons that since there was a bad post-partum haemorrhage last time a fatal one would probably result in another labour; or again, as he had many times been told, because the perineum having ruptured once would be sure to rupture worse the next time. There were very few indications for which, a patient having had one child, should be advised not to have a second. Excluding legitimate causes for the induction of abortion, the experience of the President, with regard to those women who had been told that on no account must they have another baby, was that the next labour was perfectly normal.

A sharp haemorrhage in the early months of pregnancy did not by any means indicate that the ovum had been destroyed, and great care must be taken, as far as was possible, to make sure that the ovum was dead before emptying the uterus. The President had a patient who bled on and off for nine weeks, during which time there were three serious haemorrhages—one to start with; the second in three weeks, after the bleeding had stopped a week and the patient was allowed out of bed; and the third, which was the worst of all, in seven weeks, after bleeding had stopped a week, this taking place as the patient walked from her bedroom, about four yards, to a couch in the adjoining room, the bleeding being so profuse that the carpet was completely spoilt. The patient and her husband being most anxious to have a child, a further trial of rest was given, and at the end of forty weeks the patient gave birth to a very healthy 9 lb. child.

The President quite agreed that if abortion had to be induced before the fourth month it should be done by dilatation of the cervix and removal of the ovum. He was not afraid of haemorrhage as the uterus was small and could be easily controlled. After the fourth month, however, the difficulties and dangers increased with the length of pregnancy, and it was much preferable, if possible, to induce the abortion by the slow method. If a quick method was necessary, then the speaker thought that unless the practitioner was well accustomed to operating in such cases, he would be wise to avail himself of the assistance of someone who was. The dangers of haemorrhage, laceration of the uterus, retention of the foetal head, necessitating prolonged efforts to get it out, were all very real dangers, and in most of these cases a vaginal hysterotomy was the best and safest treatment; it was an operation which required great skill.

The President had used the stomach tube many times for inducing labour, and was very pleased with this method; he

against subsequent pregnancy on unjustifiable grounds; and the emptying of that patient's uterus was really adopted ultimately as a means of circumventing what was originally a professional error. Surely nothing could be worse than the mental torture of illegitimate or illicit pregnancy! Are we, then, to consider ourselves justified in terminating these?

Tuberculosis.

There is no convincing argument in favour of interference in these cases. Working in conjunction with Dr. Dickinson, I have details of 43 sputum-positive patients who have had one or more pregnancies since 1913. Of these, 19 have died, but the total duration of illness of these cases was not below the average duration of phthisis in females of the same age period; 11 of these cases were victims of that acute type of disease which occasionally supervenes on labour, or at all events is only detected after a confinement. The prognosis in these acute cases, quite apart from pregnancy, is always bad, and there is no evidence whatever to show that emptying the uterus early would avert the condition.

With regard to the offspring, Couvelaire's statement, quoted by Dr. Eden, is certainly not borne out by the most recent views, and it seems scarcely sound ground for depriving the ovum of its life. Surely a much more logical plan is to segregate these infants as soon as they are born. This is done by the Association for Familial Placement, founded in Paris by Professor Léon Bernard and Dr. Detre; under its auspices no case of congenital tuberculosis has been discovered amongst the young patients, and the mortality from all causes is not above the average for artificially fed infants. Moreover, recent inoculation experiments by Calmette and his co-workers in France, Belgium, and New Guinea have made a great advance in the prophylaxis and have opened up a new avenue for the prevention of tuberculosis in children born into a tuberculous household.

Heart Disease.

Intervention before the child is viable is purely speculative and not justified. Pregnancy by itself cannot do any harm until the uterus forms a tumour large enough to cause embarrassment. The early failures of compensation are not due to the pregnancy itself and can be overcome by the ordinary medical measures adopted in such cases. In this way an overwhelming majority of the cases, even those which seem quite hopeless, can be forded over to the stage of viability of the child, when delivery can be effected successfully by Caesarean section, under spinal anaesthesia if necessary.

Missed Abortion.

No intervention is indicated unless the patient is very anxious to proceed as soon as possible to a further pregnancy, or unless the retained mole has become infected. Otherwise intervention is meddlesome and, though usually safe, has been known to be fatal.

Chronic Nephritis.

Here we have very definite scientific proof that in some of these cases the pregnancy has a definite baleful influence on the renal function, and can inflict permanent damage. In view of these definite findings we are therefore justified in terminating pregnancies in cases showing severe clinical manifestations such as general oedema, high blood pressure, and lung complications, and especially if accompanied by definite positive biochemical findings—for example, a material rise in blood urea and a progressively poor response to the urea concentration test. A serious attempt, however, should always be made to carry these patients on by medical measures until the child is viable. Albuminuric retinitis is, of course, an absolute indication for terminating pregnancy.

Pernicious Vomiting.

The vogue of emptying the uterus in these cases is progressively on the wane, and one ventures to hope that it may ultimately disappear. We are all in agreement that prompt and proper treatment of all cases of abnormal vomiting makes the induction of abortion an extremely rare necessity. Moreover, the results of treatment of bad cases by induction are by no means good, deaths occurring occasionally even after spontaneous abortion. Quite recently a patient was sent to us at three months, having been told that her uterus must be emptied, as it had been for a similar condition at the previous pregnancy. On admission she was wasted, looked very ill, had a furred tongue, and a pulse of 130, and was demanding that her operation should be done forthwith. She got perfectly well on purely medical treatment, and is now seven and a half months pregnant.

In conclusion, I have been requested by Professor Ranken Lyle to submit to this meeting the three following good reasons why the induction of abortion should now practically never be considered:

1. An enormous importance is attached to the value of intrauterine life at the present time.
2. Great improvements in medicinal treatment of most complications have taken place in recent times.
3. The dangers originally urged against pregnancy under certain conditions were mostly of a speculative nature and mostly groundless.

GENERAL DISCUSSION.

Dr. R. A. YOUNG (London) remarked that tuberculosis seemed always to arouse controversy, and that it suffered from a plethora of slogans and aphorisms. One of these—that of Dubois—popularized by Osler, had been quoted by Dr. Eden. He would mention two others. It had been said of the tuberculous: "For the virgin, no marriage; for the married, no pregnancy; for the pregnant, no childbirth; for the mother, no suckling." The other aphorism was that during pregnancy there was often latency or quiescence of tuberculous disease, which flared up acutely after delivery. Before elevating these statements to the dignity of laws or rules of practice, it would be wise to inquire if there were any statistical bases for them. It would then be found that until recently there had been few attempts to investigate the stage and activity of the disease in relation to pregnancy. Recent statistics would seem to show that in cases with arrested disease a large proportion weathered pregnancy and even repeated pregnancies successfully, given due care, especially after childbirth. In active cases, on the other hand, the risk was very considerable, and was the greater the more advanced and the more active the disease. It was true that sometimes during pregnancy there was a temporary lull in the disease, but this was by no means always the case. In active cases the question of abortion had to be considered if the patient were seen before the fourth month. In his experience, those who saw most cases of pulmonary tuberculosis least often recommended abortion in treatment. He himself had rarely advised it, and had generally regretted it afterwards when he had done so. It should not be forgotten that operation, except urgently necessary operation, was inadvisable in active tuberculosis, and that anaesthetics, other than gas and oxygen, were fraught with real danger of spreading the disease or of rendering latent disease active. It was also an open question whether the after-effects of abortion were not in many cases as harmful as those of labour. In any case, abortion should only be performed in such patients after consultation between the general practitioner, the physician, and the gynaecologist, and after due consideration of the family and personal histories, the symptoms, physical signs, the *x*-ray appearances, temperature range, sputum records, and possibly blood reactions. There were certain complications, however, which might weigh heavily in the deliberation and justify intervention, notably laryngeal or intestinal involvement. Abortion in quiescent or arrested cases was illogical and was more likely to do harm than good. An important point, which was often lost sight of, was that it was quite possible to employ the ordinary forms of treatment, including artificial pneumothorax, during pregnancy. Too often treatment was interrupted or neglected during this period, and it was only after childbirth that treatment was resumed, often when it was too late to be helpful. He urged most strongly the importance of prolonged rest under open-air conditions after the birth of the child. In conclusion, having condemned aphorisms, he wished to be thoroughly illogical, and propound two

experiments in transfusing animal blood to man. After much preliminary work on animals, he had given sheep's blood to man in eight cases, and horse's blood in twelve cases, and in four of them the transfusion had been repeated a second time The amount of blood given varied from 25 to 80 c.cm. One patient gravely ill with pyaemia had died suddenly after the injection of 2 c.cm. of horse's blood, but apart from this no really severe reaction had been observed. Two of the patients showed no change, the others all appeared to benefit by the transfusion. The transfusion must be made very slowly, particularly at the outset; the donor animal must be absolutely healthy and in a state of muscular rest; the blood must be used immediately after removal from the animal; citrated blood was used; blood diluted with physiological serum was preferable to pure blood. Dr. E. I. Spriggs referred to the practical value of transfusion (1) after haemorrhage from the bowel; (2) as a prophylactic against post-operative shock in malignant disease; (3) in pernicious anaemia. As regards technique, he particularly emphasized the advantage of the air-bag of the sphygmomanometer in place of a tourniquet, the pump of a sphygmomanometer to aid the flow of blood, and sharp needles. Any cutting operation was quite unnecessary. Mr. Geoffrey Keynes reviewed the value of transfusion in surgical practice. The statistics of the London Transfusion Service of the Red Cross Society showed that transfusion was apparently used twice as often in surgical as in medical cases. He dealt especially with its value in cases of gastric and duodenal ulcer; he considered it extremely unlikely that a transfusion dislodged a clot already formed; on the other hand, it might well increase the coagulability of the blood. A series of cases was described in which transfusion and operation had saved otherwise hopeless cases. Dr. Trethowan Rowe spoke of some hopeful results he had had in cases of infective endocarditis. Dr. F. B. Smith (Harrogate) discussed severe reactions and gave details of two cases. Professor Evarts Graham was enthusiastic over the results of transfusion in well selected cases, and mentioned its possible value in severe burns to counteract the toxaemia. Dr. Robert Platt advocated the use of defibrinated blood rather than citrated blood.

Friday, July 23rd.

THE NATURE OF MALIGNANT NEOPLASIA, AND THEIR TREATMENT WITH LEAD.

Owing to Dr. Blair Bell's absence through illness his opening contribution to the symposium on the nature of malignant neoplasia, and the treatment of this disease with lead, was delivered by Professor Adami. In this paper Dr. Blair Bell described the constitution and methods of work of the Liverpool Cancer Research Committee, and concluded with a brief statement of his own views on the nature of malignant neoplasia. There were many factors producing the "precancerous condition"—radiation, heat, trauma, toxaemia, senescence, etc., which reduced the vitality of the cell—a condition which might terminate in recovery, death, or in reversionary development in order that the cell might live. It seemed probable that the metabolic disturbance responsible might be one of oxygen starvation. The ancestral type to which the cell sought to return in the reversionary process was that of the chorionic epithelium. Malignant neoplasia was, therefore, a specific process of dedifferentiation from high specialization towards the most distant ancestral type—the chorionic epithelium. If this were so it would be expected that the chorionic epithelium would be found to resemble the malignant cell in structure, function, chemical composition, and toxicological affinities; an amount of convincing confirmatory evidence in these directions had been obtained, as the later contributions would indicate. Professor W. C. M. Lewis dealt first with the electrical conductivity and permeability of malignant tissue; the former had been shown to be higher in freshly removed cancerous tissue than in normal tissue, and an increased conductivity necessarily meant an increased permeability to such soluble constituents on the part of any membranes or septa in the cells. Of the substances concerned in maintaining permeability or impermeability calcium was important, and appeared to be definitely deficient in malignant tissues, in which case increased permeability and conductivity were to be expected. Other substances involved were the phosphatides and cholesterol, the two being antagonistic, and alterations in the normal phosphatide-cholesterol ratio were highly significant. This ratio was much higher in malignant tissues than in normal tissues, and it was highest of all in chorionic villi. No striking difference had been noted in the *p*H of the blood or tumour in malignancy. The antitryptic power of the blood was usually increased in cancer patients. Of all the chemical processes usually regarded as of importance for cell life glucolysis was the only one in which striking differences had been found in malignant as compared with normal tissue. Warburg had found that high glucolytic power was a general characteristic of growing tissue, but that appreciable glucolytic power under aerobic conditions was characteristic only of unordered growth. The problem as to the nature of the condition which made excessive glucolysis possible was still unsolved. Professor Lewis concluded with some notes on lead suspensions. Professor Dilling described investigations to determine whether there was any proof that lead salts had unusual powers in retarding normal growth when compared with other metals; they confirmed previous work, and indicated that (1) lead was distinctly more toxic to germ cells and to embryonic tissues than to mature tissues; (2) its adverse influence was more marked on the ovum, and was responsible for temporary sterility and early abortion in females; (3) in non-lethal doses its retarding influence appeared to be in inverse proportion to the age of the animal, and tended to persist; (4) the inhibiting and retarding power was more a characteristic of lead than of any of the other metals tested. He then turned to the untoward effect of lead on human beings, and described experiments which showed that lead acted directly on the intestine, causing first an inhibition, to be followed later by increased tonic contraction. The action on the isolated uterus was essentially similar to that on the intestine. In conclusion, Professor Dilling described two recent tests of Professor Lewis's colloidal lead and of a similar preparation by British colloids, which it was hoped to issue shortly. Professor F. Carter Wood gave a short summary of the changes seen in the tumours in a large series of animal experiments which he had agreed with Professor Blair Bell to undertake at Columbia University. The experiments were made on white rats, and sarcoma and carcinoma were used. In sarcomas the effect of lead was to produce an extensive congestion due to thrombosis and was followed by necrosis, so that only a thin layer of tumour cells was left surrounding a haemorrhagic sac. In a few cases the process went on to complete absorption, but in general recurrence followed. There were necrosis in the liver and extensive lesions in the spleen. These tumours were all very rapidly growing ones, and of a degree of malignancy rarely seen in human disease. Professor E. Glynn gave an account of the histological investigation of the tissues removed after lead injections. His tentative conclusions were: (1) There was evidence that lead had damaged a very small percentage of malignant neoplasms examined; among the changes found there was a greater tendency to necrosis and sometimes to a slowing of the rate of growth. (2) There was no damage to malignant growth which was histologically pathognomonic of lead; it most probably acted by increasing the regressive changes that occurred to some degree in all malignant neoplasms. The tendency to thrombosis in cancer was no greater; in sarcoma it might be greater, but was secondary. (3) The effect on the same type of malignant growth varied greatly in different individuals; the patient's tissues probably played a determining part. Dr. L. Cunningham described the clinical effects of lead in the treatment of malignant disease. Careful blood and urinary analyses were made in all cases. Pain was generally felt at the site of the tumour soon after injection. All types of anaemia had been noted, from severe secondary anaemia to aplastic pernicious anaemia. Great stress was laid on the number of stippled red cells present, and this was used as a guide in prescribing continued dosage; stippling he did not consider as a regenerative change, as no stipples had been found in the marrow of animals injected with lead. The kidneys were often involved early, but recovery was usually rapid when

felt convinced, from his experience, that it was a quicker and more certain method than that of bougies. He remembered that they were only dealing that morning with the induction of abortion, but he had introduced this subject because he thought it might be of interest for them to know that on the last three occasions when using the tube, although it went in easily, very smart bleeding took place, which did not stop till the tube was removed. These were not cases of low implantation of the placenta. The tube having been removed and inserted in another position and the vagina packed tightly, no further bleeding occurred and the children were born alive.

Those present had had the advantage of listening to views of great experts in their own department of medicine—Dr. Young on tuberculosis in pregnancy, Dr. F. Price on heart disease, Dr. Cole on mental disease, and Dr. Eden, Professor McIlroy, and Dr. Barris; and what he had been most impressed with, and he ventured to think also those present, was the great value of team work when dealing with cases such as those that had been discussed.

Professor McILROY, in her reply, advocated sanatorium treatment for the pregnant woman suffering from phthisis.

Dr. BARRIS, replying, said that he understood that Professor McIlroy, while she agreed with him as to the necessity of using slow methods for the termination of pregnancy after the third month, did not agree with rapid evacuation of the uterus before this date. He sympathized with this view, and indeed was prepared to agree if it could be avoided. But what was the alternative? Professor McIlroy advised the use of laminaria tents, or metal dilators together with the glycerin gauze pack. But she admitted very fairly that it was possible to dilate the cervix as far as No. 16 metal dilator without bringing about uterine contraction. Now this was a damaging admission, for it formed the main point of their trouble with the slow methods early in pregnancy. They were so unreliable, they might need to be repeated, there was the inevitable risk of sepsis, and an anaesthetic and operation might have to be resorted to eventually in order to empty the uterus. All this delay when the urgency for the need of termination of pregnancy was great might be detrimental to the interests of the patient. For this reason, and because the uterus could be emptied fairly easily, he thought it was better to adopt the rapid method before the end of the third month. With regard to the use of the oesophageal tube after the sixth month, he had employed it on numerous occasions with satisfactory results for induction of premature labour, but had no experience of its use prior to the twenty-eighth week. He did not see, however, why its use should not be extended to include a somewhat earlier period provided that the uterus was sufficiently enlarged. He had not found that spinal anaesthesia for Caesarean section in patients suffering from morbus cordis had been attended with any serious fall in the blood pressure, to which Mr. Rivett referred, and regarded this method as very suitable in severe cases of this description, but as a general rule he had found patients suffering from morbus cordis bear labour surprisingly well.

Dr. EDEN, in winding up the discussion, said that he had always regarded himself as orthodox, even conservative, until he wrote this paper. He thought that a combined discussion between the obstetricians and the psychiatrists would be profitable. He would never interfere in a case of phthisis except on the advice of a physician. He advocated broad views on the subject of what had been called foeticide—the rigidity of the views of the medical profession drove people to the abortion-mongers. The public held very decided views as to the importance of their own opinions. It was left entirely to the profession to say in what circumstances a patient should have a pregnancy terminated. In regard to the question of inducing abortion when they thought that the child was going to be diseased, they could not divest themselves of all responsibility for the health and well-being of the child yet to be born. Neither could they compel a patient against her will to go to full term and undergo Caesarean section on account of a tumour such as had been referred to by Mr. Rivett.

The Sections.

BRIEF SUMMARY OF PROCEEDINGS.

(Concluded from page 203.)

SECTION OF MEDICINE.

Thursday, July 22nd.

BLOOD TRANSFUSION IN DISEASE.

SIR HUMPHRY ROLLESTON opened a discussion on blood transfusion in disease with a brief historical note, and then referred to the observation on the length of the survival of the transfused blood in the recipient's circulation, and passed on to the post-transfusional reactions produced in the recipient. Assuming that typing of the blood was correctly done and that by a proper technique severe reactions due to gross incompatibility, embolism, and pulmonary oedema were avoided, yet reactions would sometimes occur and it was impossible to foretell them. Possibly the divisions between the four blood groups were not really as sharp as they appeared to be, and their *in vitro* tests might not be sufficiently delicate to detect slight degrees of incompatibility; Doan's suggestion that there is in some cases an incompatibility between plasma and leucocytes was also mentioned. Reactions were more commonly seen after a large transfusion than after a small one, and after repeated injections than after a single one; repeated transfusions from the same donor were especially liable to produce reactions, possibly owing to the production of anaphylactic shock. Anticoagulant, especially citrate, had been blamed by some in this respect. According to Kordenat and Smithies there were three kinds of reaction—acute, delayed, and systemic or constitutional. The speaker next mentioned the variety of ways in which blood transfusion might do good, and then dealt in greater detail with the indications for blood transfusions in particular diseases. In acute anaemia from haemorrhage its life-saving power was generally admitted; in gastro-intestinal haemorrhage perhaps its value was more debatable. In chronic or repeated haemorrhages blood transfusion often made possible or more safe operative procedures for the cure of the main condition; this was particularly the case in gynaecology. In haemorrhagic diseases blood transfusion might supply the missing thrombogenic factor—for example, the platelets in purpura haemorrhagica—and a haemostatic effect was obtained in haemorrhage of the newly born, haemophilia, and jaundice, although in the latter this effect was by no means constant. In pernicious anaemia it was difficult to assess its value owing to the natural irregular course of the disease; chronic cases with remissions seemed to do better than recent acute ones. In leukaemia there was little real evidence that blood transfusion was of any value, though in a few cases of the chronic lymphoid type some improvement had been recorded. In acute septicaemia general opinion seemed to be adverse to transfusion, as it usually failed to benefit and might do harm.

Professor Lovell Gulland thought that the length of survival of transfused red cells had been overstated by the American observers. He had not found that there was any great difference in the methods of transfusion so far as the effect on the patient was concerned. He had used polycythaemic patients as donors with great advantage and convenience. In pernicious anaemia he was convinced of the superiority of arsenic over all other forms of treatment, reserving transfusion for those severe cases when time was an all-important factor. Cases with evidence of cardiac failure, chronic kidney mischief, high fever, or severe gastric or hepatic disturbance were not good cases for transfusion. In leukaemia one must distinguish between the acute and chronic forms; in the former he had had no good results; in the latter the only indication for transfusion, in his opinion, was intractable haemorrhage. In aplastic anaemia it was never of any good in the acute form, and sometimes caused severe reactions. He had been occupied for some time in a long study of haemophilia, and would only say that transfusion was found to bring the coagulation curve nearer to the normal than any other method. Professor René Cruchet gave the results of his

the lesion was produced by large doses; such doses over a long period seemed to produce more permanent damage. Dr. Cunningham gave the details of the technique of administration and the doses given, and ended with a summary of the results of treatment. Out of 227 cases treated 50 had received benefit; these 50 patients were either living normal lives (9), or the disease had been completely arrested (10), or the disease was believed to be cured and treatment stopped (31). Dr. S. Miller gave the results of his experience in treating 18 cases during the last three months. Most of the cases were inoperable, and most of them had so far improved. He had had no really severe reactions. If the haemoglobin fell below 50 per cent. he gave a blood transfusion, and the progress of blood change was carefully watched by a count of the stippled cells. Mr. Frank Coke also described favourable results during the last three years.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

Thursday, July 22nd.

INDUCTION OF PREMATURE LABOUR IN THE TREATMENT OF CONTRACTED PELVIS.

THE proceedings of this Section on the second day were opened by Dr. J. Bright Banister, who read a paper on the place of induction of premature labour in the treatment of contracted pelvis. Dr. Banister feared that Caesarean section was being performed more often than was justified; there was more in the treatment of labour with contracted pelvis than the employment of Caesarean section. He was sure that induction of premature labour could be successfully employed in many cases where Caesarean section was now performed. His conclusions were based upon an analysis of 745 cases of induction for contracted pelvis at Queen Charlotte's Hospital, Charing Cross Hospital, and in his own private practice. The risk to the mother of this procedure was very small, there being one death only in the whole series, and that from pulmonary embolism; this gave a maternal mortality of 1.3 per 1,000. There had been 99 foetal deaths, 56 being neo-natal and 43 post-natal. In five of these cases the cause of death was wholly unconnected with the induction of premature labour. It was an enormous advantage to obtain a natural delivery if possible. The foetal deaths in unassisted cases amounted to 8.5 per cent., whereas with forceps delivery the mortality rate was 23.4 per cent.; it was relatively much greater with posterior positions of the vertex. Provided there was no undue delay, the result to the baby was better the later induction was carried out. The method had failed in 24 cases; in five of these embryotomy had to be carried out, and in 8 cases living babies were delivered by Caesarean section. The morbidity rate was no higher than occurred in normal deliveries. Prolapse of the cord had occurred in 12 cases with foetal death in 9 cases, but this might be attributed as much to the contracted pelvis as to the operation. If the true conjugate were calculated to be 3¼ in. or less, induction was contraindicated and the rational treatment was Caesarean section at full term. With a larger pelvis the problem to be solved was the optimum time for the operation. The two main points for consideration were—the relative sizes of the presenting part and the pelvic brim, and the shape of the pelvis. Subsidiary to this was the position of the child's head. Frequent examinations were imperative. Patients should be seen once a week, and the size of the head compared with the pelvis should be estimated each time. In a general way it might be said that a pelvis contracted in all directions indicated an earlier induction than one in which the deformity consisted of flattening. When descent of the head through the pelvic brim became doubtful, he advised examination under an anaesthetic; it would then generally be found that the disproportion was not so marked as had been thought. According to the findings induction should be advised in a fortnight, a week, or immediately. He did not think that patients would be found to object to the frequent examinations, even under anaesthesia, in view of the present-day tendency for prospective mothers to demand ante-natal care and protection from the difficulties of childbirth. The employment of induction provided evidence of great value as to the capacity of a particular uterus to deliver children in subsequent pregnancies. He urged a wider use of induction in cases of contracted pelvis because it was simple, safe, and unaccompanied by untoward complications.

Dr. Rhoda Adamson said that the question of induction of labour depended on the degree of contraction and on the shape of the pelvis. She had found that among her private patients the commonest form of contraction was the small round pelvis. Among her hospital cases contraction was generally due to flattening caused by infantile rickets. The small flat pelvis was not suitable for any treatment except Caesarean section, as the pelvic outlet would not permit the passage of a viable child. She had had good results in cases of the simple flat pelvis, the patients being allowed to go into labour at term. Some had been prepared for Caesarean section and then delivered themselves spontaneously. It was worth remembering that the child's head tended to resemble in shape and hardness the head of its father. In her view actual measurements were far less important than the relative fit of the presenting head at the inlet. Dr. English (Singapore) had always found that estimation of the relation between the head and the pelvis was of far more value than measurements with a pelvimeter. He advocated giving to any patient who had a difficult confinement a history sheet for the guidance of anyone who might be responsible for the conduct of her future labours. Professor McIlroy did not perform Caesarean section nearly so frequently now as before; one reason was that she never operated until labour had commenced. The estimation of contraction at the pelvic outlet was a far more difficult matter than that of contraction at the brim, and an accurate method of measuring the outlet would be a great advance in obstetrics. She did not advocate induction of premature labour till the thirty-eighth week. An exact estimation of the date of pregnancy was very difficult, but was of the utmost importance from the point of view of ascertaining the right time for inducing labour. Mr. Henry Evers thought that the real difficulty was to identify the border-line case in a primipara. He agreed that the really important point was the fit of the head in the brim. He had investigated 150 cases of primigravidae in which the head was above the brim, and in 12 per cent. it had been necessary to perform Caesarean section. Induction here might have saved some unnecessary sections. The most serious trap was the asymmetrical type of contracted pelvis. Mr. L. C. Rivett said that though a trial labour was an enormous advantage it was nevertheless equally important to examine the multipara, as subsequent children might be appreciably bigger than the first. He agreed that the infantile mortality was much higher when forceps had been employed. Mr. Maslin Jones (Wolverhampton) remarked that the problems of induction assumed a different aspect when no maternity beds were available. He had not found the quinine-castor oil method of much value before term. He thought that induction was an operation which could quite safely be undertaken outside an institution.

Mr. Danby had recently been using for induction a solid oesophageal tube in place of the stomach tube, and out of 20 cases 18 had been successful. In 38 cases in which quinine and castor oil had been used 26 were successful. He never induced before the thirty-sixth week, and he did not concern himself with the size of the diagonal conjugate. Mr. T. H. Richmond (Stoke-on-Trent) spoke in favour of the use of pituitrin at full term to prevent post-maturity occurring. The President agreed that induction of labour was ever so much safer than Caesarean section, and referred to the risk of rupture of the uterus after administration of pituitrin. Induction should not be attempted with a conjugate of 3¼ in. and under. Labour was often difficult when the father and mother were of disproportionate physique. He did not think that any vaginal examination in a pregnant woman should be made before the thirty-sixth week. A recent investigation had shown that induction was frequently performed too early; many women who had required induction of labour for the first child had subsequently natural labours. Dr. Adamson, in her reply, spoke in favour of rectal rather than vaginal examination in pregnant women. Dr. Banister, con-

cluding the discussion, said he thought that obstruction at the outlet was of very rare occurrence. He outlined the methods he usually adopted, and mentioned his preference for Kraus gum-elastic bougies. Since the introduction of the 10 per cent. solution of pituitrin he had used this successfully without any ill effects.

Friday, July 23rd.

CAUSES AND TREATMENT OF UTERINE HAEMORRHAGE.

At the final meeting of this Section, Mr. Beckwith Whitehouse read a paper on the causes and treatment of uterine haemorrhage without gross physical signs, and mentioned that for five thousand years this subject had been prominent in medical and lay literature. During the past hundred years conflicting theories had complicated the points at issue, but in the last few years more solid knowledge was being based upon the truths of physiological and pathological research. A correct conception regarding menstruation was the key to the proper understanding of the phenomena associated with pathological haemorrhage. In 1914 he had expressed the opinion that at each menstrual function there was a definite shedding of portions of the superficial endometrium and that the menstrual discharge consisted of the autolysed products of the result of this necrosis. The only modification which he thought desirable in the light of recent work was that in most cases autolysis of the clot and tissue commenced while the separating endometrium was actually in anatomic contact with the deeper layers, and while the extravasated blood was intimately associated with the epithelial debris. It was the exception for no clots to be passed at some time during the menstrual function, though these might only be minute coagula and not recognizable as clots. Menstruation apparently corresponded to the death of the unfertilized ovum and was synchronous with commencing retrogression of the corpus luteum; the products of decidual necrosis were then cast off as the menstrual discharge, for which he suggested the name of "menstrual lochia." The cause of the periodicity of the menstrual function was associated with the high degree of specialization of the human species. The human sexual instinct was independent of the uterus and ovaries, as was shown by its development before puberty and its persistence after the natural or artificial menopause. It was probably the thyroid gland which initiated the maturation and rupture of the first ovarian follicle, and was therefore responsible for the first menstruation. All available knowledge pointed to the extreme complexity of the sexual cycle. In regard to the uterine secretions, though in the human species absorption from the vagina was possible, it was unlikely that they had any great part in the production of sex instinct. When fertilization did not occur he thought that the uterine secretion was responsible for removing by autolysis the necrosed menstrual decidua and coagula. Mr. Whitehouse reviewed the data obtained from an analysis of 200 cases of functional uterine haemorrhage with no obvious physical signs, and classified these cases into four groups: (1) Periods too frequent, or epimenorrhoea. (2) Periods too prolonged, or menostaxis. (3) Excessive loss of blood, or menorrhagia. (4) Irregular bleeding, or metrostaxis. Epimenorrhoea meant that the ovaries were working at too high pressure: such ovaries were hyperplastic and often polycystic; they usually contained much retrogressive luteum tissue. This type was common at the beginning and the end of sexual life. Curettage was, of course, useless, but treatment directed to the thyroid and pituitary glands would probably be beneficial. Menostaxis was, he believed, analogous to an incomplete fertile uterine abortion. Chronic endometritis predisposed to the condition, but was not the only cause. He suspected that the corpus luteum was intimately associated with this type of haemorrhage. Simple curetting frequently cured this condition. Menorrhagia was, he thought, comparable to the inertic type of post-partum haemorrhage, and was essentially due to "uterine insufficiency." It might be the result of many diverse factors affecting both metrium and endometrium, or a temporary developmental attribute of adolescence. Senility was frequently associated with uterine insufficiency owing to atrophy and fibrosis of the uterine wall. Menorrhagia was much more serious than menostaxis, and a severe degree of anaemia might result. At puberty curetting might be sufficient; in other cases it should be combined with radiation of the thyroid. At the menopause the intrauterine application of radium was the most useful measure available as it destroyed the tissue which aborted. Metrostaxis included all haemorrhages independent of the menstrual cycle. Haemorrhage was frequently severe, was bright red, and large clots were not unusually present. There was usually present a diffuse hyperplasia of the endometrium, but it might be localized as in the case of the simple adenomatous polypus of the endometrium. A polypus might in fact be but a local safety-valve, some deeper underlying unknown cause being present. The sympathetic vasomotor centres in the tractus intermedio-lateralis of the medulla were probably intimately associated with these haemorrhages.

Professor Fletcher Shaw said that until recent years they had always looked for the cause of haemorrhage in the uterine body or the endometrium: now they had to remember the disorders of function associated either with uterine or endocrine changes. He pleaded for a standardized terminology on the lines suggested by Mr. Beckwith Whitehouse. Mr. W. W. King suggested the abolition of the term "endometritis." Chronic subinvolution was the cause underlying very many cases of excessive loss. He discussed the use of luteum and thyroid extracts, haemoplastic serum, cotarnin, and radium in treatment. The President agreed with the necessity for a new and standardized terminology. He spoke very favourably of radium therapy, and much preferred this to x-ray treatment, as in using radium dilatation and curetting would naturally be performed and the chance of missing a possibly malignant condition be much diminished.

SECTION OF NEUROLOGY AND PSYCHOLOGY.

Thursday, July 22nd.

MANIC-DEPRESSIVE PSYCHOSIS.

ON the second day of the meeting in the above Section Dr. E. Mapother opened a discussion on manic-depressive psychosis. After introductory remarks Dr. Mapother said that the range of the term "manic-depressive psychosis" was largely a matter of convention, that there was no constant or specific cause of the condition, and no physical modifications recognizable during life or after death. Under the heading of manic-depressive psychosis were included cases of functional mental disorder which showed as their predominant feature one of a contrasting pair of anomalous types of reaction: (1) melancholic or depressive reaction, and (2) manic reaction. The two syndromes were often seen at different times in the same patient, and were merely deviations from the normal in different directions. It had been emphasized that cases of manic-depressive type did not tend to dementia even after a number of attacks; nevertheless cases presenting the manic-depressive syndrome in pure form during the early stage did sometimes end as typical dementia praecox. Morbid fear with insight had been picked out and labelled "anxiety neurosis," but the condition appeared to merge into other types of depression. As regards pathology, they were still uncertain as to whether the primary change was in the central nervous system or elsewhere. There was gradually accumulating evidence that certain physical changes were primary and essential. Among these were: histological abnormalities in the cortex cerebri, pituitary gland, and gonads, anomalous blood sugar curves, haemoclastic crises, changes in the gastric secretion, etc. Such changes, however, seemed common to dementia praecox and manic-depressive psychosis, the difference being merely one of intensity.

The President (Dr. Farquhar Buzzard) dealt with certain practical aspects of the disease. He considered that in mild or moderate form the disorder was more common than generally supposed, but was not recognized. The distinction between mild manic-depressive psychosis and anxiety neurosis was one of fundamental importance, and he disagreed with Dr. Mapother on the question of the latter being regarded as merely a subdivision of manic-depressive psychosis. In the two conditions the prognosis

Mr. J. S. Fraser (Edinburgh) said that the first and most important object of the radical and modified radical mastoid operations was to place the patient in a position of safety as regards life—namely, to free him or her from the possibility of an intracranial complication. In twenty years he had known only one case in which an intracranial complication occurred in a patient who had had a radical mastoid operation, but he had known several in which a patient suffering from chronic middle-ear suppuration, without any acute symptoms, had had his name entered on the hospital waiting list for operation, and had had to be taken in as an urgent case of intracranial complication before his turn. With regard to the technique of the operation, he had found that with a primary skin graft the operation cavity healed much more quickly, that the outline of the inner wall was preserved in almost all cases, that the first dressing was nearly painless and subsequent dressings unnecessary, that the duration of the patient's stay in hospital was greatly reduced, that a dry and satisfactory cavity resulted in a larger percentage of cases than with other methods, and, finally, that as regards the hearing power the results were better than when the skin graft was omitted. He applied the graft to the bony surface at the time of operation, by means of a long string of iodoform worsted which was packed into the cavity. The wound was dressed on the fourth or fifth day, the silkworm gut sutures, including that retaining the meatal flap, were taken out, and the iodoform packing was removed. As a rule there was no bleeding and no necessity to clean out the cavity. In most cases he put in fresh iodoform worsted packing, and applied gauze wool and a trefoil bandage for another two days. At the end of that time all dressings were omitted in the daytime, a piece of iodoform gauze being inserted into the meatus at night to avoid staining the pillow, and the meatus was left open. The patient was, as a rule, able to leave the hospital in fourteen days, and printed instructions were given to him regarding keeping the cavity clean by syringing. Mr. Fraser concluded by giving detailed statistics of his results in 628 cases of the radical mastoid operation; the skin graft had proved entirely unsuccessful in only 11 out of 377 cases in which it was employed. The discussion was continued by Professor von Neumann, who proclaimed himself conservative as regards the radical operation, but radical as regards the conservative operation, and gave a demonstration of many instructive lantern slides and specimens.

Friday, July 23rd.

RESECTION OF THE NASAL SEPTUM.

At the third session of the Section of Laryngology and Otology, with Dr. Brown Kelly, President of the Section, in the chair, a number of papers were read. Dr. W. Jobson Horne, speaking on the sorrows of the septum, said that in his opinion the younger generation of rhinologists pinned their faith far too implicitly to the operation of submucous resection of the nasal septum, with the idea of remedying all sorts of ailments of the nose. He considered that that operation was far too frequently done, and that its results were not at all so good as they ought to be. In his opinion the old-fashioned Moure's operation was often a better procedure. Much of the attention devoted to the nasal septum ought to be turned towards the turbinals and the nasal sinuses instead.

PHARYNGEAL AND OESOPHAGEAL DIVERTICULA.

Dr. William Hill, in a paper on pharyngeal and oesophageal diverticula, said that there was probably no group of lesions in the description of which so much inaccuracy had been perpetuated as in the diverticula of the pharynx and of the oesophagus. Dr. Hill subdivided diverticula which were pharyngeal in origin into congenital lateral post-faucial diverticula, congenital centrally placed anterior diverticula, and deep pharyngeal pressure diverticula or pouches. Those which were oesophageal in origin he separated into traction diverticula situated more or less at the level of the hilus of the lung, the traction-pulsion diverticula of Starck, Leugart's post-bronchial ledge pulsion diverticula, and epiphrenic pulsion diverticula. He then proceeded to give detailed descriptions of the various types, described the methods of their formation, and detailed their operative treatment. His paper was illustrated by a large number of excellent lantern slides.

RETROPHARYNGEAL ABSCESS IN CHILDHOOD.

Dr. Douglas Guthrie read a paper on acute retropharyngeal abscess in childhood. He said that two varieties of retropharyngeal abscess were distinguished in most textbooks, but that the spinal variety of tuberculous origin was relatively rare. The acute variety of abscess, of lymphatic origin, was, on the other hand, fairly common, but, insidious in origin and often presenting no characteristic sign or symptom, it frequently escaped diagnosis or was discovered only at *post-mortem* examination. The condition escaped recognition perhaps more frequently than any other acute disease in childhood, and if untreated almost invariably ended in death. On the other hand, when a retropharyngeal abscess was recognized and opened, the prognosis was good and the patient recovered rapidly. The most characteristic symptom, almost invariably present, was difficulty of breathing, but the diagnosis was merely a matter of conjecture until the throat was examined, when a swelling could be seen on the posterior pharyngeal wall, to one side of the middle line. Digital examination was the most certain diagnostic test, but should not be practised unless preparations were made to open the abscess at once, if necessary; this should be done without any anaesthetic and from the mouth.

SECTION OF PATHOLOGY AND BACTERIOLOGY.

Friday, July 23rd.

LEUKAEMIA AND ALLIED CONDITIONS.

PROFESSOR G. LOVELL GULLAND, opening a discussion on leukaemia, gave reasons for his view that this condition was of neoplastic origin—namely, a sarcomatosis of the leucocytes. It might be due possibly to a disturbance of the factor regulating the number of leucocytes. He considered briefly the phylogeny of the white cells and pointed out that the leukaemic process might affect any or all stages of development. He was sceptical of the existence of a really acute lymphocytic leukaemia, since most of the descriptions belonged to a time before the myeloblast was recognized as a separate entity. With regard to "mixed" forms it was evident that almost every case was "mixed" at some stage. Patients did not die of the leucocytic excess but of anaemia. Chronic cases might go on for years with slight anaemia, while in acute leukaemia the red count might be lowered by a million every few days. Probably this depended on the rate at which the marrow was filled by proliferating leucocytes. In cases of acute myeloblastic leukaemia he had found the marrow pure white to the naked eye and consisting of nothing but myeloblasts. Haemorrhage increased the anaemia and was badly borne because there was no reserve power of regeneration in the bone marrow. The speaker then discussed the differential diagnosis of leukaemia and gave an account of two cases illustrating the difficulty of distinguishing the disease in the aleukaemic phase.

In the unavoidable absence of Dr. S. W. Paterson, Dr. Anderson (Melbourne, Australia) read his paper. He reviewed a series of cases of disease of blood-forming organs. From the clinical aspect he grouped them under tumour of glands, tumour of spleen, or tumour of mediastinum; he discussed the leading features of each group. Professor J. Sholto Douglas raised the question of the value of the oxidase reaction. He commented on the fact that cases of leukaemia often appeared in groups, which suggested that it might be regarded as an epidemic disease. Dr. Robert Donaldson said that the textbook classification of leukaemia was too rigid. He disagreed with Professor Gulland as to the sarcomatous origin of leukaemia. There was still complete ignorance about the governing factor of the disease. Examination of cells of the blood and marrow did not help as there were as many classifications as observers.

STUDY OF THE LIVING TISSUE CELL.

Dr. T. S. P. Strangeways and Dr. R. G. Canti contributed a paper on the study of the living tissue cell by

and treatment were entirely different. In distinguishing them, Dr. Buzzard emphasized the need for a careful and detailed history. Dr. T. A. Ross joined issue with the opener on the question of the identification of psychoneuroses with manic-depressive psychosis. In his opinion the fundamental difference lay in the mental state; by careful attention to this factor the differential diagnosis could be made. One essential difference was that of remorse; the psychoneurotic blamed anything or anybody but himself for his malady, and if remorse was present the patient certainly belonged to the manic-depressive group. Dr. R. D. Gillespie expressed disagreement with Dr. Mapother's definition of manic-depressive psychosis, and considered that the number of cases terminating in dementia was very small indeed. He also disagreed with the proposal to classify anxiety neuroses with manic-depressive psychosis, and reminded the opener that the histological changes in the cerebral cortex and gonads in the latter disorder, to which reference had been made, still awaited confirmation. Dr. R. H. Cole stated that all individuals were liable to manic or depressive reactions of a mild type, and that manic-depressive psychosis was merely an exaggeration of this almost physiological state. He was doubtful, however, if there was sufficient evidence to warrant the statement that a psychoneurosis could become a definite psychosis. Dr. R. G. Gordon said that much confusion existed with regard to manic-depressive psychosis, as they were dealing purely with symptoms. He believed that manic-depressive psychosis and schizophrenia each related to entirely different types of personality. The real advance in psychiatry would probably be made in the differentiation of these personality types. Dr. Mapother then replied to the various criticisms offered.

Friday, July 23rd.

Pituitary Disorders.

On the third day of meeting a discussion on disorders of the pituitary gland was opened by Dr. Gordon Holmes (London). He observed that in recent years the physiology of the pituitary gland had become a very vexed question, as disturbances in the floor of the fourth ventricle, without involvement of the pituitary, had been shown to give rise to typical dyspituitary syndromes. Dr. Holmes then gave a general review of the different types of pituitary disorder, including acromegaly, gigantism, and Fröhlich's syndrome, illustrating his remarks with lantern slides of photographed cases. Among the disturbances of growth seen in acromegaly a less well known occurrence was considerable enlargement of the colon. The variations in carbohydrate metabolism and blood sugar curves seen in different forms of pituitary disorder were then described. Increased carbohydrate tolerance was usual in hypopituitarism, and diminished tolerance, and often glycosuria, in acromegaly; it had been found that such glycosuria could be controlled by insulin. The effects of local pressure on neighbouring nervous structures by an enlarged pituitary were next dealt with, and also the various modifications of visual field disturbance resulting from interference with the optic nerves and chiasma. Finally, Dr. Holmes discussed the question of treatment. In his experience endocrine therapy had proved disappointing, while *x*-ray treatment often gave results as good as those produced by surgical measures.

Mr. Norman Dott discussed the surgical aspect of pituitary disorders. It was necessary to distinguish between tumours or cysts arising within the sella turcica (pituitary tumours proper) and those arising above the sella turcica (suprapituitary tumours), as the surgical approach in each case was entirely different. In suprapituitary tumours the transfrontal method was indicated, while in his experience the trans-sphenoidal route, as advocated by Harvey Cushing, was the operation of choice. *X*-ray examination was of prime importance in the differential diagnosis. In pituitary tumours enlargement of the sella was often found, while in suprapituitary lesions the sella was not enlarged, but might be unduly flattened. He considered that operation should be urged when the visual fields were progressively diminishing. Mr. M. L. Hine dealt with the subject from the ophthalmological standpoint, and emphasized the need for carefully taking the visual fields with test objects. Dr. W. J. Adie (London) discussed the relation of the pituitary body to the vegetative nervous centres situated in the hypothalamic region. In his opinion there was a close physiological relationship between the two, and similar symptoms might arise from disease of these nervous centres as from pituitary lesions. He illustrated his remarks with references to certain cases of encephalitis lethargica in which this region was involved. Dr. Gardiner-Hill described investigations on disturbances of growth, obesity, and carbohydrate metabolism in children. There was a high proportion of cases in which the syndromes of obesity and overgrowth were combined and continued up till puberty. Mr. Geoffrey Jefferson described the surgical measures adopted to deal with pituitary tumours. It was scarcely to be hoped to remove such tumours entirely; operation should be undertaken mainly for the relief of pressure, to relieve visual defects, and to prevent blindness. Mr. Jefferson then dealt in detail with the trans-sphenoidal method of approach. Dr. Eaves referred to three cases of dyspituitarism, with *post-mortem* examinations, which she had investigated. In one case of hypopituitarism the pituitary was small and fibrosed; in a second case of infantilism, with polyuria, both the anterior and posterior lobes of the pituitary were involved; and in the third case, one of post-encephalitic lethargica, the anterior lobe only was fibrosed. She also discussed the effect of insulin on the pituitary gland. Dr. C. G. Imrie described a case of polyuria following encephalitis lethargica in which the urinary secretion was controlled by insulin. He also discussed the influence of pituitrin injections on the blood sugar curve; the effect of 1/2 c.cm. of pituitrin on increasing the rise of the curve was greater than that of 50 grams of glucose.

SECTION OF LARYNGOLOGY AND OTOLOGY.

Thursday, July 22nd.

After-Treatment and Results of the Mastoid Operation.

At the second session of the Section of Laryngology and Otology, with Mr. Norman Patterson, vice-president of the Section, in the chair, a discussion on the after-treatment and results of the radical and the simple mastoid operations was opened by Mr. G. J. Jenkins (London). He said that, as regards the operation for acute mastoiditis, whatever method of treatment was adopted, the primary object should be the prevention of an extension of the septic process, but that it was important to consider how the ear might be left as near normal as possible. By the Schwartze operation the damaged tissues behind the aditus were removed, and at the same time the surgeon made sure that the tympanic cavity was sufficiently drained either by spontaneous opening or by paracentesis. It was also important to deal with all systems of cells in the mastoid, including those which might not appear obviously infected. Since the war many aural surgeons had tried primary closure of the mastoid wound after the Schwartze operation. Mr. Jenkins had come to the conclusion that there were certain extensive irregular cavities where the soft tissues could not be brought into intimate contact with the deep bony parts, and that in such circumstances primary suture was not likely to succeed and was unsafe. He felt that the risk to the patient was too great and the result not always satisfactory. He was in favour of after-treatment by the maintenance of an open wound, using the whole or part of the mastoid incision, or by making another drainage wound into the meatus and closing the original wound. In his experience, even in selected cases, drainage from the lower part of the mastoid wound was more effective than meatal drainage; and the healing was as rapid and was more under control. When there was a small well defined cavity, such as a simple gutter in the anterior part of the mastoid, it was his custom to stitch up the upper part of the incision and to drain from the lower part of the wound. The process of healing was commonly uneventful, and the resulting scar was not in any way objectionable. If there was any serious delay in healing, or if there was a tendency for the epithelium to dip into the wound, Mr. Jenkins strongly advocated secondary suture, which rarely failed if carefully done.

impossible to obtain any shadow of the subclavian or axillary arteries in a radiogram.

A series of sphygmograms gave objective confirmation of what had been found by feeling the radial pulse of the affected side. When the elbow was supported a series of well marked percussion waves were seen on the tracing, while when the arm hung by the patient's side the sphygmogram showed an unbroken straight line.

The distribution of the gangrene in the distal phalanges of the index, middle, and ring fingers is explained by the fact that these parts of the hand are furthest from the heart, and for this reason blood failed to reach them when the subclavian artery was compressed at the thoracic inlet.

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GENERALIZED TUBERCULOUS PERITONITIS: ACUTE OBSTRUCTION: OPERATION: RECOVERY.

CASES like that here recorded are sufficiently rare to be of interest.

On May 6th last I was called to see a woman, aged 70, who complained of abdominal pain and vomiting. She gave a history of good health except for occasional slight attacks of a similar kind during the past two or three years. She had been up and about until the previous day, and the bowels had opened slightly on each of the two previous days. The temperature was normal, and the pulse 84; the tongue was rather coated. The patient was of spare build and had obviously lost weight; the skin over the abdomen was dry and inelastic. Tenderness was elicited over the lower abdomen with some rigidity and distension, but no obvious mass was felt; rectal examination revealed nothing abnormal. No physical signs were found in the chest. Aperients were prescribed, followed later by enemas and colon irrigations; there was practically no result, but the general condition remained good until May 11th, when faecal vomiting occurred. She was then urged to go into hospital for operation, but refused until May 13th, when she was admitted to the County Hospital, Haverfordwest. Mr. R. C. B. Macrae operated. The abdomen was opened through a right paramedian incision and an obstruction of the small gut was found about 18 inches from the caecum; this was caused by a band which stretched from a loop of gut to a tuberculous gland in the mesentery; a piece of small gut was also adherent to the mesentery and kinked. Further up a second complete obstruction was found, due to a smaller band stretching from omentum to mesentery, the intestine above being acutely distended. Enlarged glands were present throughout the mesentery, some calcareous and some soft, and small tuberculous nodules were scattered throughout the peritoneal cavity. There was a small quantity of fluid in the pelvis.

The bands were divided and the adherent gut freed; the abdomen was closed without drainage. The patient made an uneventful recovery.

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Reports of Societies.

RHEUMATOID ARTHRITIS.

A MEETING of the Medico-Chirurgical Society of Edinburgh was held in the Hall of the Scottish headquarters of the British Medical Association on July 7th, the President, Professor RUSSELL, in the chair, when a discussion on rheumatoid arthritis, initiated by Professor Ralph Stockman (Glasgow) and Dr. G. L. Kerr Pringle (Harrogate), was held.

Professor STOCKMAN referred to the varieties in nomenclature associated with this disease. Owing to the fact that the condition resulted from the malign activities of a number of different organisms the clinical designation "rheumatoid arthritis" was satisfactory for the present. Many suggestions regarding the etiology of the condition had been put forward through the ages, but there could be little doubt that it was a germ disease. The probability that there were several different organisms responsible was strengthened by consideration of the different clinical courses noted in the cases met with. In some cases there was a slow, insidious onset with implication of the small joints and gradual implication of the larger joints, perhaps extending over several years. Other cases began as acute arthritis of one of the larger joints with high temperature, rapid pulse, and great constitutional disturbance. Again, enlargement of the spleen and lymphatic glands might be found, indicating a general blood infection. Ultimately all cases took on a definite chronic course and tended to go from bad to worse. It was important to realize that rheumatoid arthritis was not merely an arthritis but a general disease of which the point of attack was the white fibrous tissue—the connective tissue—of the locomotory system of the whole body. The primary and essential pathology was a fibrositis with swelling and proliferation of white fibrous tissues locally. A perineuritis was set up in the small nerves in the inflamed tissue, and so pains, stiffness, and a fatigued feeling were produced outside the joints. In some cases there was more tendency to attack and erode the cartilage and bone. The sequels of all this included the well known symptoms—the muscular dystrophies, deformities, and contractures. The origin of the disease in any one case might be difficult, and was sometimes impossible, to define certainly. Professor Stockman had seen cases in association with psoriasis, general dermatitis, and lupus erythematosus; rheumatoid arthritis also followed chronic tonsillitis and many other local septic conditions. Treatment resolved itself into two principal endeavours: (1) to combat the infection and bring it to an end, and (2) to remove the fibrositis throughout the body and correct any contractures of muscles and joints. General tonic measures and local application of heat in various forms, baths and spa treatment, had been used from remote times; these, however, had little effect on the general course of the disease. Vaccines from different strains of streptococci and staphylococci had proved of no specific value in Professor Stockman's experience, but during the past five years he had used protein shock or non-specific protein therapy. The benefit appeared to depend on the sharp feverish reaction which followed the injection. Professor Stockman tried various proteins in rheumatoid cases, but now almost confined himself to the typhoid bacillus as the most satisfactory. Beginning with a dose of 100 million intravenously, it was repeated every six days until six injections had been given, the dose being gradually increased to 200 or 250 million. The reaction started within an hour with a rigor and rise of temperature to 103°-105° with nausea, headache, and possibly vomiting. A profuse perspiration was followed by a return to a normal temperature. There was a very marked polymorphonuclear leucocytosis. The reaction lasted for six to twelve hours. There was also a focal reaction, the affected areas becoming painful, slightly swollen, and tender. This passed off, and next day the patient felt better. In about 60 per cent. of upwards of 250 unselected cases which Professor Stockman had treated the infection was brought to an end. The treatment should be commenced early in the disease. The speaker finally referred to the formidable and tedious task of treating the contractures of muscles and joints.

Dr. G. L. KERR PRINGLE referred to the importance of soil and diathesis in addition to infective foci in the production of the disease. He said that the commencement and cessation of menstruation were associated with the disease, and pregnancy had long been considered a cause. He referred to the biochemical investigations at the Royal Bath Hospital, where it was found that the glucose tolerance was lowered in most cases of proliferative arthritis, and that when a septic focus was removed the tolerance became more normal. These patients improved on a low carbohydrate diet, and the basal metabolism did not appear to be altered in them. With regard to treatment, Dr. Pringle said that infective foci should be removed and hydrochloric acid given if there was achlorhydria. In young women with an abnormal menstrual history thyroid extract in small doses with increasing doses of the French tincture of iodine and a low carbohydrate diet should be given, and lavage where there was intestinal stasis. The speaker referred to the local production of hyperaemia by various agents followed by massage. Surgical measures should not be undertaken when there was active disease, and when operation was considered a low glucose tolerance should be obtained. Vaccines sometimes gave excellent results, and in other cases were very disappointing.

dark-ground illumination. Dr. Strangeways entered into a discussion of cell biology and the mechanism of growth and reproduction, in which profound scientific investigation reached the confines of philosophy. Dr. Canti described the method of making tissue cultures and gave an account of cell division as observed under dark-ground illumination.

Dr. Strangeways and Dr. Canti gave a demonstration of living tissue under dark-ground illumination, showing the structure of living cells and intracellular activity. The technique of the method has been described by Dr. Canti and published in the JOURNAL of July 24th (p. 155). The outlines of the flattened vegetative cells showed clearly. The cell structures—that is, nucleus, nucleoli, mitochondria, fat globules, and metabolites—were easily visible and their movements fascinating to watch.

SECTIONS OF DISEASES OF CHILDREN AND ORTHOPAEDICS.

Thursday, July 22nd.

Spastic Paralysis.

On the second day of the meeting a discussion by these two Sections on spastic paralysis in children was opened by Dr. W. J. Adie, who defined its scope and said that nothing material had been added to the accurate clinical description of the condition given by W. J. Little more than eighty years ago. While meningeal haemorrhage must be struck out as a cause of any infantile spastic state, birth injury, which might occur even in an apparently normal labour, was most often present, as had been shown by the important researches of Schwartz of Frankfort and his assistants. The speaker was much struck by the resemblance between the syndrome of Little's disease and the condition seen in men wounded in the region of the superior longitudinal sinus in the war. He gave reasons for rejecting the view that primary neuronic degeneration was the cause of Little's disease, which, it should be noted, was not familial or progressive as such degenerations generally were. Great defect of the powers of speech might accompany a normal or more than average intellect. Epilepsy, athetosis, and chorea were generally contraindications to surgical treatment. After describing various forms of familial diplegias and spastic affections, the speaker briefly referred to the alleged sympathetic innervation of striated muscle; he thought that the evidence was against this view, for complete ablation of the sympathetic had no effect on decerebrate rigidity. Mr. Blundell Bankart said that the condition was most often due to a defect of the upper motor neurone, and was an exaggeration of the postural reflex. Its treatment was operative—on the muscles and tendons when structural shortening had supervened, but in all cases also on the peripheral motor nerves. Foerster's operation of posterior root section was now universally abandoned. The operation of cutting the sympathetic rami, which was based on the work of Hunter and Royle, had proved ineffective in his and other surgeons' hands. The object of all operations was to diminish the effective action of the preponderating group of muscles, either by lengthening them or by destroying part of it. The speaker thought that Stöffel's operations had advantages over others; they consisted in excising the nerve tracts to the overacting muscles, usually before they left the main trunk. Prolonged after-treatment and the use of splints were unnecessary. Dr. John Beattie showed a number of motion pictures to substantiate the contention of Hunter and Royle that muscle tone was influenced by the sympathetic nerves. These very clearly demonstrated the effects of operations on the central nervous system of goats, sea-gulls, and domestic fowls. In the decerebrate goat the hind limb on the side on which the sympathetic rami had been cut was flaccid. Mr. S. W. Daw agreed with Mr. Bankart as to the great superiority of operations on nerves over those on tendons in suitable cases. For secondary contracture of the triceps cruris he preferred incision of the fascia of the soleus and forcible stretching to tendon lengthening. In the upper limb operation was less necessary and less successful in its functional result. Tenotomy and tendon transfer as for posterior interosseous nerve palsy were useful, however. The value of the cosmetic effect of such procedures was worth consideration. Mr. Tyrrell Gray said that a selection of cases was necessary, and the patient's desire to walk was a great factor in producing useful results. He preferred the extra peritoneal operation on the obturator nerves. Dr. F. M. R. Walshe maintained that the histological evidence certainly did not establish the sympathetic innervation of voluntary muscle, and consequently he disapproved of cutting the sympathetic rami for spasm. Dr. E. W. Neill Hobhouse thought it was possible to prevent severe spasm in the early stages and prevent need for operation. He emphatically condemned faradization, which the relations and friends and parents were too fond of using on their own responsibility. Dr. W. F. Menzies emphasized the importance of education before spasm became extreme, as there was no rigidity or spasticity at first. Mr. Rocyn-Jones spoke of the beneficial mental effect of physical improvement after operation. In treating adductor spasm by Stöffel's operation he always excised the tendon of the adductor longus. Operations on the arm were disappointing except for their cosmetic effect. Mr. Alan Todd had found bimanual exercises useful when the condition involved the upper extremity. He relied much on a keen mother and a wheelbarrow. Dr. H. J. Capon said that treatment begun at the age of 2 years was too late. It should begin at 1 or 2 days, before diplegia developed. Oedema, congestion, laceration, and haemorrhage required lumbar puncture to drain away the blood, etc.

Memoranda:
MEDICAL, SURGICAL, OBSTETRICAL.

GANGRENE OF FINGERS DUE TO SUBCLAVIAN COMPRESSION.

Descent of the shoulder during growth or through muscular weakness may occasionally cause compression of the lowest trunk of the brachial plexus by a normal first thoracic rib. T. Murphy, Morley, Stiles, Stopford, and Wheeler have each described instances of this condition.[1] The following case illustrates the fact that the subclavian artery may suffer similar compression at the thoracic inlet.

A man, aged about 50, was admitted to Kasr el Aini Hospital, Cairo, with a useless left upper limb and a dry gangrene affecting the two distal phalanges of the index, middle, and ring fingers of his left hand. He had a flaccid paralysis of the majority of the muscles of the left arm, forearm, and hand, but there was some contracture of the digital extensors which caused the fingers to curve slightly in a dorsal direction. The deltoid was completely paralysed, and the humeral head had sunk towards the subglenoid position—a subluxation which could at once be reduced by supporting the elbow, with the same sensation of "telescopic" movement that is found in a congenital luxation of the hip.

The monoplegia had appeared suddenly during sleep a month before admission to hospital, the patient waking to find his limb useless. He stated that fever had accompanied the paralysis and that the gangrene had gradually followed it. There was no sensory loss in the left upper limb; the skin adjoining the gangrenous areas was hyperaesthetic. A very lively left supinator jerk was present, and was accompanied by a very slight increase of the left triceps jerk.

In view of the absence of sensory loss it was difficult to connect the gangrene directly with disease of the nervous system. An examination of the left radial artery at the wrist showed that while its pulsation was distinctly felt when the subluxation was reduced by supporting the elbow, it disappeared completely when the support was removed and the limb hung vertical.

It seemed at first sight that the axillary artery might be suffering compression by the slightly displaced head of the humerus, but after abducting the arm to a right angle the radial pulse reappeared, in spite of the fact that the head bulged further into the axilla. Radiography revealed no cervical rib or other abnormality, and we concluded that the stoppage of the pulse was due to compression of the left subclavian artery at the thoracic inlet.

Raising the limb relieved the compression, but there was a latent period of some thirty seconds before the pulse returned, due, no doubt, to a persistence of the *stupeur artérielle* produced by mechanical stimulation of the outer arterial coat. It was

[1] Stopford, J. S., and Telford, E. D.: *Brit. Journ. Surg.*, vii, p. 168. Wheeler, W. I. de C.: *Dublin Journ. Med. Science*, April, 1920, p. 65.

faction of any sort to the author. It is therefore fitting that the spirit of those who discipline their pens to the labour should not pass without acknowledgement.

THE PITUITARY.

The Comparative Anatomy, Histology, and Development of the Pituitary Body,[4] by G. R. DE BEER, is the sixth of a series of monographs at present being issued under the editorship of F. A. E. Crew and D. Ward Cutler. The series is designed with a very definite aim. The increasing specialization in biological inquiry has made it impossible for any one author to deal adequately with current advances in knowledge. It has indeed become a matter of considerable difficulty for a research student to gain a correct idea of the present state of knowledge of a subject in which he himself is interested. To meet this situation the textbook is being supplemented by the monograph. De Beer has fully grasped the intention of the editors and has produced a book which will save an infinity of trouble to the student who is embarking on a research into the functions of the pituitary body. It is true that such research lies in the domain of physiology, but it is none the less true that in the planning out of experiments on a complex organ such as the pituitary gland, a good knowledge is required of the various forms exhibited by the gland in different animals, so that the most suitable for experimentation may be selected. Moreover, it is necessary to know the component parts of the gland, with a view to defining their respective functions; and also to know what parts are homologous in the series of animal forms, in order that the results of experimentation may be comparable. Finally, morphology is in important respects of value in discriminating functional differences, though it may fall short in defining the precise nature of the functions. On all these matters de Beer has furnished a clear and well illustrated account, and in such detail as to render superfluous much reference to original articles. A complete bibliography up to date is, however, appended, as a supplement to the exhaustive bibliography to be found in Stendell's work on the hypophysis.

The book is the product of an original research involving the examination of a large number of pituitary glands, and in order that the work should be true to nature the author has used no material that had not been properly fixed within half an hour of the death of the animals, and for this reason human material has not been employed. After a preliminary chapter dealing with the technique of staining sections, the author discusses, separately, the macroscopic anatomy, the histology, and the development of the gland in the several orders of animals—in mammals, birds, reptiles, amphibia, the bony fishes, selachians and cyclostomes. An interesting chapter is devoted to the evolution of the gland. Thus, in its most primitive form the hypophysis occurs as a depression in the ectoderm in front of the mouth, into which one of the head cavities acquires an opening (amphioxus); later it is displaced into the buccal cavity, its epithelium becomes ciliated, and its function apparently is to create a current of water. In its further evolution the depression sinks beneath the surface and communicates with the exterior by means of a duct, thus taking the form of a secreting gland. The final step is the complete separation of the hypophysis from the surface and its connexion with the infundibulum, the organ thus acquiring the endocrine mode of secretion. A short chapter containing comparative observations, together with some practical advice as to the most suitable forms for experimentation, concludes a very interesting and useful volume.

THE CEREBRUM AND CEREBELLUM.

THE *Nouveau Traité de Médecine*[5] is an ambitious work, projected to appear in no fewer than twenty-two volumes, of which several have already been reviewed in these columns. The present volume, No. 19 in the series, is devoted to the diseases of the cerebrum and cerebellum. To this subject more than a thousand pages is given, and this extensive text is richly illustrated by numerous figures and plates, some in colour. The reader is therefore provided with a veritable mine of information, and this at a very reasonable cost. In a work of this magnitude it is inevitable that some inequality of treatment of the various subjects should occur, but this fault is here at least at a minimum, and an adequate presentation of the subjects is guaranteed by the names of the numerous distinguished authors who contribute to its pages.

If any particular sections can be chosen as being of special value, those dealing with the diseases of the cerebellum, from the pen of M. Andre Thomas, and the account of the cerebral tumours, by MM. Roussy and Cornil, deserve mention. There are few modern accounts of the subject which can rival M. Thomas's extensive account of the physiology and diseases of the cerebellum. The chapter on the tumours of the cerebrum is also particularly rich in valuable pathological matter.

The articles on cerebral syphilis and general paralysis of the insane can both be warmly commended; the pathological and clinical descriptions are alike excellent, while the account of the microscopic anatomy of general paralysis is enriched by many illustrations, including some beautiful coloured plates. A useful chapter, and one on a subject which is seldom adequately treated in the ordinary textbook, is that on the senile brain by M. A. Comte. Dr. Levy-Valensi's account of the infantile encephalopathies is unusually full and good, and here again the value of the text is much enhanced by very graphic figures. The last chapter, on the various forms of labyrinthine disturbance, is a brief but highly useful summary of a subject which often receives scant attention in textbooks.

There can be no question as to the value of this book, both to the neurologist and to the general physician. Its only fault is its weight, which is so great as to preclude it being read in any comfort except at a table or a reading desk.

MATERNITY AND INFANCY.

IN the course of the book *Maternity and Infancy*,[6] written with the direct simplicity which characterizes the work of Dame MARY SCHARLIEB, it is stated that it is intended "chiefly for the instruction and comfort of expectant mothers." This is too modest a claim. Rather it might well be placed in the hands of medical students when they are about to begin a course of practical obstetrics, and to nurses also who are preparing for the C.M.B. To both it will be of great interest and value, but it is just a question whether an expectant mother, however well informed, would be "comforted" by a discussion of the treatment of the possible complications of pregnancy. The author deals fully with these matters, describing in detail the medical treatment, and not hesitating to mention divergent views of obstetricians.

Before practical experience has been obtained in midwifery, the student frequently finds certain gaps in the usual textbooks. It is just these gaps which are here skilfully bridged, and a continuous story thus presented, and a lucid and connected account of ante-natal, natal, and post-natal conditions afforded.

With her long and varied experience Dr. Scharlieb brings to bear upon the whole subject of pregnancy a breadth of vision and a ripe wisdom which appear between the lines of this book. All through it wholesome advice for expectant mothers is given. Controversial points are touched upon with restraint, and dogmatic assertions are not made, though they might well become the writer. Modern ideas are incorporated with the sound teaching that has stood the test of time. In these days, when a certain amount of medical knowledge is found in every household, Dame Mary Scharlieb sounds a timely note of warning against the interference of well intentioned relatives.

The book is dedicated to the First Obstetric Unit in London at the London (Royal Free Hospital) School of Medicine for Women, and to its director, Professor Louise McIlroy. It deserves to be widely read.

[4] *The Comparative Anatomy, Histology, and Development of the Pituitary Body.* By G. R. de Beer, M.A., B.Sc., F.L.S. Biological Monographs and Manuals, No. VI. Edinburgh and London: Oliver and Boyd. 1926. (Demy 8vo, pp. xix + 108; 118 figures. 12s. 6d. net.)

[5] *Nouveau Traité de Médecine.* Fasc. XIX. *Pathologie du Cerveau et du Cervelet.* Paris: Masson et Cie. 1925. (Roy. 8vo, pp. viii + 1016; 251 figures, 40 plates 75 fr.)

[6] *Maternity and Infancy.* By Mary Scharlieb, D.B.E., M.D., M.S. London: Williams and Norgate, Ltd. 1926. (Cr. 8vo, pp. 256. 6s. net.)

Reviews.

THE DEBT TO OUR TEACHERS.

The appearance of the fourth edition[1] of Professor E. H. Starling's *Principles of Human Physiology* is a happy reminder of how much we owe to our great teachers. It has been remarked that the progress of a science may be written in the history of a few compelling ideas, from which have sprung schools of thought that have constrained the studies of a generation. Whence derives such power? It comes, surely, from that quality of genius to invest an idea, not alone with the objective evidences of truth, but with that contagious personal enthusiasm to which the human mind cannot deny response. Science is more than logic and stubborn facts, and they who can put breath into the dead bones are our masters, for they make our science for us.

British physiology has been fortunate in her teachers, and Professor Starling must take high place in this good company. As the title indicates, the book is offered, in particular, to the great family of medical students, but the reader is not allowed to forget that human physiology is but a part of our conception of the behaviour of living matter in whatever form it may manifest itself, and that the problem of life is one whole, whether we observe it in the reactions of amoeba or in the activities of man.

Only five years ago the third edition of this textbook appeared, yet the progress in many fields in the intervening years has been such as to persuade the author that further revision was now demanded. It is not the province of a general textbook to have the last word in all the branches which it covers; it is better that new facts should find their level in the general configuration of knowledge before they take their place in the standard works, for we cannot maintain perspective if we crowd the foreground with ill-focused detail. Professor Starling has made extensive but conservative revision of a sort directed to the simplification of the main theses. Intriguing observations find no place if they do not contribute to the balance of the whole composition. The bulk of the book has been appreciably reduced by the removal of much chemical detail which may now be found in the many available biochemical textbooks, and by some modifications in type. Amongst the subjects which have been considerably amended may be mentioned those on muscular activity, the coronary and capillary circulations, conditioned reflexes, respiration, secretion, and the metabolism of carbohydrate. The chapter on the sense organs has again been contributed by Dr. H. Hartridge, and this departure from the personal character of the book seems justified by the special nature of this subject.

Whilst the continued growth and specialization of knowledge make it increasingly evident that the teaching of physiology, which takes toll of all the physical sciences, can only be adequately met by the co-operation of experts in their several fields summarizing in monograph form the progress in those fields, nevertheless the comprehensive textbook from one pen will remain the foundation of education. Here only will the instinct for the subject be formed. But with the extension of knowledge the task of the author of such a book becomes the greater. Few there are that have the courage to shoulder it, and of these not all are happy in their burden. In the pages of "Starling" the student will find no hint of laboured weariness.

CARBOHYDRATE METABOLISM AND THE PANCREATIC HORMONE.

From Toronto and from Paris have arrived two important monographs upon the role of the pancreas in carbohydrate metabolism. The first betrays its authority in the name of its author, Professor J. J. R. Macleod, who now joins the select group of contributors to that excellent series of Monographs on Physiology which is edited by Professor E. H. Starling. The title which Professor Macleod has chosen—*Carbohydrate Metabolism and Insulin*[2]—aptly states his case. The pancreatic hormone interests him supremely as a new weapon in the armoury of the experimentalist for the assault upon the mysterious recesses of carbohydrate metabolism. The story, therefore, opens with the discovery of insulin in the Toronto laboratory and its effects upon depancreatized dogs. There follows an adequate discussion of those physiological criteria—such as the D:N ratio, the respiratory quotient, the blood sugar, and tissue glycogen—which have dominated all studies of the metabolism of sugar, and the reactions of these to the administration of insulin in both the diabetic and the normal animal form the data from which the argument is to proceed. So, by way of chapters dealing with experimental hyperglycaemia and hypoglycaemia we are led to a discussion of the mechanism of the action of insulin. This discussion could hardly be satisfying for the author was in a sorry position. It was written when experimental research was at an impasse. It is a story of promises unfulfilled, clues abandoned, illusions destroyed. In our haste we had said that the discovery of insulin provided a key to the main problems of carbohydrate metabolism, that a few conventional experiments with this new agent would carry us far along the road. A riot of experiment engulfed us, unsettled our criticism, damped our easy optimism, and left the subject almost worse confounded than before. What happens to the sugar which disappears from the blood of the normal animal under the influence of insulin? It is not converted into glycogen, it is only in small part oxidized. It is lost. Find it, and the great secret of carbohydrate metabolism will be revealed. Such is the impression that is left by much of the work upon the action of insulin, and, as Professor Macleod's patient review clearly reveals, the search for the hidden sugar led us into many vain imaginings. And now it would seem that where the great mystery was sought there is no mystery. Dr. H. H. Dale and Dr. C. H. Best are persuaded from work recently carried out by them that the lost sugar is, in fact, converted into glycogen in the normal animal as well as in the diabetic. It is a misfortune that the author's difficult task of summary could not have been lightened by the knowledge of this simplification, but it is of the nature of monographs that they should deal with a live subject, and they must, therefore, be always one stride behind the vanguard of knowledge. Professor Macleod has given us a patient, laborious, critical record of recent work in this great problem in metabolism. The book is a comprehensive chronicle rather than an inspired message—but this is no problem to be pursued amongst the clouds.

The second book[3] to which reference has been made is by Dr. A. Choay. In it interest is centred on the hormone itself rather than on insulin as a lever in the machinery of metabolism. We are taken much farther back in the history of physiology—back to Claude Bernard and von Mering. The growth of the faith in a pancreatic hormone is traced in detail up to the discovery of insulin. In still greater detail are considered the chemical and physical properties of insulin and the methods for its preparation, its pharmacology, physiology and therapeutics, and the interesting interrelations of the pancreas and other organs of internal secretion. A very satisfactory feature of the work is an elaborate bibliography, which must approach a complete list of all papers of real interest to the subject. Fifteen hundred original papers are included. The price fixed by the publishers, should it withstand the further vagaries of the exchanges, is modest enough to enhance the attractiveness of this book as a standard work of reference.

Both Professor Macleod and Dr. Choay have achieved a considerable measure of success in turning the great library of pancreatic studies to their special purposes, and the choice of the reader may well rest upon his own particular interests. In these days the writing of a careful monograph in a wide field is a task which brings little satis-

[1] *Principles of Human Physiology.* By Ernest H. Starling, C.M.G., F.R.S., M.D., Sc.D., F.R.C.P. The chapter on the sense organs edited by H. Hartridge, M.A., M.B.Cantab. Fourth edition. London: J. and A. Churchill. 1926. (Roy. 8vo, pp. xiii + 1074; 569 figures. 25s. net.)

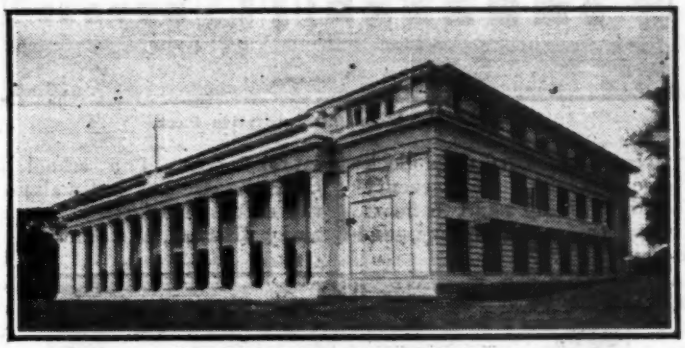
[2] *Carbohydrate Metabolism and Insulin.* By John James Richard Macleod, F.R.S., M.B., LL.D.Aberd., D.Sc. (Hon.) Toronto. Monographs on Physiology. London and New York: Longmans, Green and Co. 1926. (Med. 8vo, pp. xii + 257; 33 figures. 18s. net.)

[3] *La Sécrétion interne du Pancréas et l'Insuline.* Par André Choay. Paris: Masson et Cie. 1926. (Roy. 8vo, pp. xx + 570; 7 figures. 8s. 4d.)

MEDICAL PROGRESS IN MALAYA.

King Edward VII College of Medicine at Singapore.

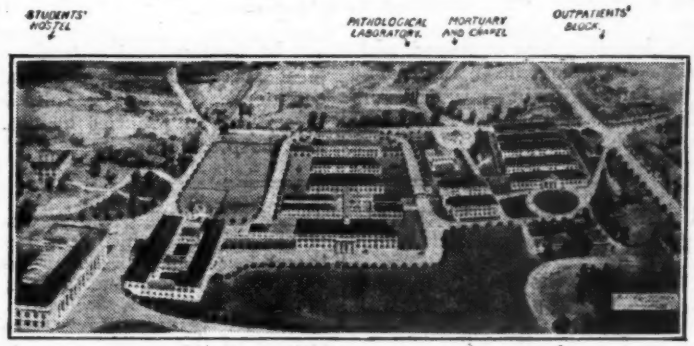
The opening in February of the new King Edward VII College of Medicine at Singapore was briefly described in our issue of April 3rd (p. 623). Additional information has now reached us, together with photographs of the college and the new general hospital, some of which are here reproduced. The frontage of the college measures 120 feet, and its main feature is a lofty façade of fluted Doric pillars, 50 feet high. The façade is flanked by wings set back slightly and adorned by sculptural panels representing the teaching and practice of medicine. Over the central doorway there is a striking mass of relief sculpture, and the names of various sciences appear over the subsidiary entrances along the front. The building is constructed of ferro-concrete, and cost about £58,000. The main hall seats 500 persons, and, in addition to four laboratories, there are lecture and research rooms, good library accommodation, reading rooms, and a museum. An electro-cardiograph has been installed at a cost of £400, and a special effort has been made to bring the equipment in other ways up to the most modern requirements. The building used previously as the college has now been converted into an anatomy school.



King Edward VII College of Medicine.

There are usually about 100 to 150 students at the college; some are maintained by the Government, some pay fees, and the remainder are in receipt of scholarships and exhibitions. The number of applicants for admission as students is now so large that selection has become necessary, candidates being chosen mainly on the results of the Senior Cambridge examination. At one time many students came from India, and a few from the Dutch Indies, but the Dutch Medical Service has established a well equipped medical school at Weltevreden, and preference is now given at Singapore to candidates from Malaya, for whom two commodious hostels have been erected. A dental school is now being opened for the first time, with a course lasting four years.

Medical education in Singapore may be traced back to 1892, when a course was started for assistant surgeons, but was abandoned owing to the small number who attended. In 1905 a group of enlightened Chinese presented a petition to the Governor, asking for the establishment of a medical school, and proved their sincerity by raising a sum of over £9,000. By the conversion of existing buildings and the construction of a lecture room and chemical laboratory, the Government inaugurated a medical school, which was opened by Sir John Anderson in 1905, and five years later the first group of students received their diplomas. The institution was known until comparatively recently as the King Edward VII Medical School, but has now adopted the title "College of Medicine." In 1913 a professorship was founded by the King Edward VII Memorial Fund, and in 1925 the International Health Board of the Rockefeller Foundation endowed two professorships on condition that the Government provided a third chair; the chairs are in biology, biochemistry, and bacteriology. The present considerable cost of upkeep is borne jointly by the Government of the Straits Settlements and the Federated Malay States.



General View of New Hospital.

New Hospital, Singapore.

As shown in the general view, the college is situated close to the extensive general hospital, which was formally opened by Sir Laurence Guillemard, Governor of the Straits Settlements, on March 29th. The site on which the hospital is built included originally a conical hill and a deep ravine, so that the building of a hospital in one block would have been impossible. The hill has been levelled and the ravine filled, remaining inequalities of level being skilfully used in constructing the new buildings. The hospital consists of three main blocks of wards, hostels for nurses and students, residential quarters for dressers, a pathological laboratory, an out-patients' block, a maternity hospital, and other buildings. The pavilion type has been adopted throughout, a long central corridor dividing the wards on each side, which thus obtain abundant light and air. Blocks for the first and third class wards have five pavilions of two stories each, the central corridors being 500 feet long, and the pavilions 280 feet from wing to wing. It is hoped that the scheme will be completed next year, when accommodation will be available for 800 patients. The total cost of the building will be about £525,000.

The wards, operating theatres, and x-ray rooms were planned in consultation with the medical officers, who considered carefully all the various details, so that the maximum efficiency might be obtained. The main block of first-class wards provides 256 beds. It has a small corridor ending in a spacious waiting room for the nose, throat, and ear department; in this corridor are entrances to the theatres for clean and septic cases respectively. Each theatre is fitted with a special installation for the provision of illumination similar to that of daylight. Terrazzo floors and sani-onyx and tiled walls facilitate cleansing. Throughout the building all internal angles are covered, and the doors and fittings are so designed as to avoid there being any projecting mouldings. Sterilizing and disinfecting chambers open off the main corridors of this block, and near them are well equipped kitchens, for Europeans, Chinese, and Mohammedans. As will be seen from the illustration, the wards are high and well lit; adequate artificial ventilation is available, and their floors are covered with rubber sheeting, which renders them noiseless and easily cleansed. Two of the four pavilion wards contain forty-eight beds, one fifty-six, and another seventy-two; there are thirty-two beds in a special ward devoted to the treatment of tuberculosis; the total number of first class beds is 256.

A special ward is provided for seamen. The admission block of this building comprises three floors, and in addi-

NOTES ON BOOKS.

PROFESSOR MATTHEWS is to be congratulated that within ten years a fourth edition[7] of his *Physiological Chemistry* should be called for. The material which has been added since the third edition deals with the discoveries of Sir James Irvine and his pupils in regard to sugars, the clotting of the blood, the chemistry of the skin and eye, insulin, and the chemical aspect of the defences of the organism against disease. When the historical order of development of a subject is dealt with it is clearly stated. The chapter on the carbohydrates may be taken as an example: it is made interesting by its account of the work of Berthelot, Priestly, and Baly on photosynthesis and photocatalysis. Professor Matthews himself is an authority on the oxidation of sugars. Again, in the chapter on animal heat, the story of the work of Lavoisier is retold with freshness, and Lavoisier's conclusions are given in his own words from the original papers. No fewer than 275 pages are given up to "Practical work and methods"; and here the watchword is "thorough." When colloids were under discussion we should have expected some allusion to the use of the clay filter. There is no index of authors' names, which, when supplied, is always convenient; but at the end of each chapter there is a full bibliography.

The *Textbook of Physiology*,[8] by Dr. ZOETHOUT, is a more or less judicious compilation, and has very few references to original papers. Such references as are given are almost exclusively to American authors. It would seem that those readers more particularly addressed are students of dentistry, pharmacy, and those at "normal schools." It is difficult to understand the principle on which the various sections or chapters are arranged; why, for instance, the ferments should be treated as early as in Chapter II, before any chemistry has been studied. In this chapter the word "dead" is used as equivalent to "non-living," but dead can properly be applied only to that which has lived. The classification of the properties and characteristics of living matter does not seem to be based on any ascertainable principle. The first property to be mentioned should have been affectability, called in this book irritability; but "contractility" is given the first place; and the reader is left to think that it is as universal as irritability, which it is not. Excretion, respiration, digestion, and even absorption are all set down in the same list with the far more comprehensive term "metabolism." The allusion to "inertia" (p. 21) is misleading, for from it we are left in doubt whether the author is referring to inertia of masses in the ordinary Newtonian sense or to "physiological" or "functional inertia" and "functional momentum" in the sense in which Fraser Harris, J. Arthur Thomson, and Noël Paton have used it. Where the author is practical he is much better; the treatment of respiration, "taking cold," and baths is timely and sensible. Some of the diagrams are excellent; some sketchy, or stiff and formal.

The third volume[9] of the series of ophthalmological monographs, by Professor TERRIEN of Paris, deals with the lens. It is clearly written and freely illustrated, as were the two previous numbers of the series. Anatomical and physiological considerations occupy rather more than half the volume, the remaining portion being devoted to difficulties of accommodation and the occurrence and treatment of opacities and injuries. Like its predecessors the book is authoritative, and is not spoilt by an excess of detailed descriptions.

To the prospective settler and even to the tourist the Union Castle Steamship Company's *South and East African Year Book and Guide*[10] offers a mass of useful information in an admirably concise form. The handbook includes, besides an atlas of 64 pages and a general gazetteer, summaries of the immigration and land laws, and reviews of the present position of industry and agriculture, detailed descriptions of the towns and country, and the routes by which the various districts of the territories covered may be reached, and discussions of the cost of living. Very full accounts of climate are given, with special reference to suitability for invalids, and a section headed "Sport and Research" deals with the distribution of game and fish and the local and general facilities for sport. There is an adequate index.

[7] *Physiological Chemistry.* By Albert P. Matthews, Ph.D. Fourth edition. London: Baillière, Tindall and Cox. 1925. (Roy. 8vo, pp. xviii + 1233; 109 figures. 30s. net.)

[8] *A Textbook of Physiology.* By William D. Zoethout, Ph.D. Second edition. London: Henry Kimpton. 1926. (Med. 8vo, pp. 616; 186 figures. 18s. net.)

[9] *Sémiologie Oculaire: Le Cristallin.* Par Félix Terrien. Paris: Masson et Cie. 1926. (Roy. 8vo, pp. 240; 158 figures. 6s.)

[10] *The South and East African Year Book and Guide for 1926.* Edited for the Union Castle Mail Steamship Company by A. Samler Brown, F.R.M.S., and G. Gordon Brown, F.R.G.S. London: Sampson Low, Marston and Co., Ltd. (5s. 6d. post free.)

The *Transactions of the American Climatological and Clinical Association*[11] for the year 1925 include numerous articles dealing with diseases of the respiratory and circulatory organs and with climatology and hydrology. Dr. V. Y. Bowditch contributes some interesting reminiscences of his student life in Europe in 1879 to 1881, when he visited Vienna, Leipzig, Strasbourg, Paris, and London.

[11] *Transactions of the American Climatological and Clinical Association for the year 1925.* Vol. xli. Printed for the Association. 1926. (Med. 8vo, pp. xxxvi + 216; illustrated.)

PREPARATIONS AND APPLIANCES.

Portable Apparatus for Administering Carbon Dioxide.

DR. H. WHITRIDGE DAVIES (Department of Therapeutics, University of Edinburgh) has designed a portable apparatus for administering carbon dioxide mixed with air in conditions with respiratory failure, such as shock, anaesthesia, alcoholic and narcotic poisoning, carbon monoxide poisoning, drowning, and some of the accidents in obstetric work. The advantages of carbon dioxide inhalation are that it acts promptly, its maximum effect being obtained in ten seconds, that its action lasts as long as the inhalation continues, and that the increased pulmonary ventilation is obtained without any great increase in metabolism. Dr. Whitridge Davies had the assistance of Professor Briggs of the department of mining in the University of Edinburgh, and of Messrs. Sparklets, Ltd., in designing his apparatus. A sparklet 6¼ inches long and 3/4 inch in diameter contains 25 grams of liquid carbon dioxide and will provide twelve litres of gas, so that if the maximum flow allowed be two litres a minute, the sparklet will last at least six minutes. The sparklet is inserted in a holder on to which a cap with a piercing pin, a rubber collar, a needle valve, and a lateral exit pipe is screwed. As the cap is screwed up the piercing pin perforates the sparklet, and the rubber collar prevents the escape of gas; the needle valve is then unscrewed to the required amount, and the gas escapes through the exit pipe underneath a Schimmelbusch mask, or straight into the patient's mouth, or through a glass funnel attached to a tube, or through a catheter passed into the naso-pharynx. With a little experience the needle valve will supply a gentle, steady, easily regulated stream of gas, and a refill can be easily inserted.

A Transparent Eye-shade.

Mr. E. N. Hughes, assistant surgeon to St. Paul's Eye Hospital, Liverpool, has designed an eye-shade of celluloid, for use whenever a shade is required which will not exclude light. It is of special value when the only seeing eye needs shading, the other eye being blind. In such a case, after removal of foreign bodies, or after minor operations with cocaine, the sound eye can be protected by the transparent shade and the patient can find his way home. The shade will be useful also, it is considered, when the eye needs protection, and yet the eyelids should be kept open, as in conjunctival conditions and after lid and squint operations. A series of holes along the upper margin prevents moisture from accumulating on the inner surface of the shade; the shade can be boiled, and is unbreakable with ordinary usage. It is called "St. Paul's Eye-shade," and can be obtained from Messrs. Boots, chemists, Church Street, Liverpool.

ROYAL MEDICAL BENEVOLENT FUND.

AT a recent meeting the Committee considered forty cases and voted £507 to thirty-four applicants. The following are notes on some of the cases relieved.

Widow, aged 70, of M.R.C.S.Eng. who died in 1896. She has worked hard for the last thirty years, and has kept and educated her three children, who are now able to maintain themselves but no more. She has been removed to a nursing home. Her income is £98 per annum, and the Fund was asked to help with the nursing home fees, which amount to 2 guineas a week. Voted £6 in three monthly instalments of £2 each.

L.R.C.P. and S., aged 69, who practised in Scotland, but is now suffering from the effects of cerebral haemorrhage. His friends asked for assistance to meet expenses; another charity is also being approached. Voted £40 in twelve monthly instalments.

Widow, aged 65, of M.D.Glas. who died in 1903. Of two daughters, one, aged 24, is at home, and has £30 per annum; the younger, aged 22, is now self-supporting. Since 1917 the applicant and her daughters have been fortunate in having a cottage at a nominal rent of £5 per annum, but they now have to vacate it. Voted £10.

Widow, aged 49, of M.B.Edin. who died in March. She has two sons, one, aged 20, who earns £120 per annum; the younger, aged 16, is at present living with friends, but may, it is hoped, be sent to Australia. The applicant hopes to get a post and become self-supporting. Voted £15 in three monthly instalments of £5 each.

M.D. 1880, aged 72, who practised in London, but has had to give up practising on account of failure of sight. His four children help, but the brunt of the household expenses fall on the daughter, leaving insufficient for her own personal needs. Voted £40 in four quarterly instalments of £10 each.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, K.B.E., at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working-boys. The Guild appeals for second-hand clothes and household articles. The gifts should be sent to the Secretary of the Guild, 58, Great Marlborough Street, W.1.

British Medical Journal.

SATURDAY, AUGUST 7TH, 1926.

SCIENCE AND THE STATE.

In his gracious message to the British Association for the Advancement of Science, which the Prince of Wales as President read at the opening meeting at Oxford on Wednesday evening, King George aptly recalled the only other occasion upon which a member of the Royal Family had occupied the chair. It was at Aberdeen in 1859, as the Prince reminded his hearers, that his distinguished great-grandfather, Prince Albert, held that position and delivered a thoughtful and far-seeing address in which he pleaded the "sacred cause" of science. Although by that time science had attained a more assured position than it held at the Oxford Meeting of the Association in 1832, when a well known hymnologist included Michael Faraday and David Brewster in what he called "a hodge-podge of philosophers" unworthy of honorary degrees, the next meeting at Oxford (in 1860) showed how badly the clerical opponents of Darwin had read the signs of the times, and Wilberforce's ill-judged and ill-informed attack recoiled upon himself. Well might Huxley say "The Lord hath delivered him into my hand!"

The Prince Consort in 1859 was able to show that the Association had accomplished much, and he claimed that philosophers were "not vain theorists, but essentially men of practice—not conceited pedants, wrapped up in their own mysterious importance, but humble inquirers after truth—God's truth—God's laws as manifested in His works, in His Creation." Even now the Prince of Wales found it necessary to rebuke those who still hold "an attitude towards science which personifies it as the ancients personified the powers of darkness." The attitude of the metaphysical philosopher has changed, and instead of denouncing the natural philosopher as impious, he is inclined to twit him with failure, in an attempt he has *not* made, to explain this sorry scheme of things. We are too often told by superior persons that Huxley, Darwin, and Tyndall set out to explain everything and that they and their followers have signally failed. But these great men explicitly disowned any such intention or attempt.

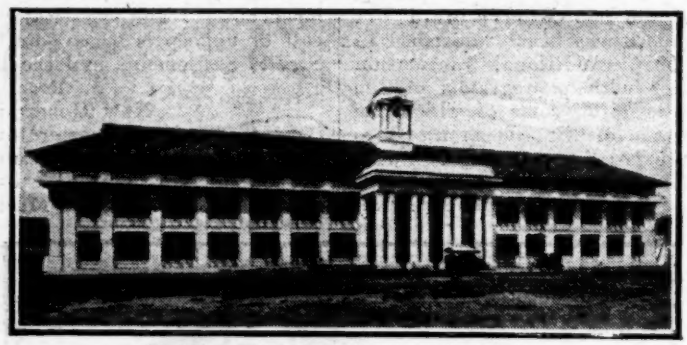
It is interesting to note that in the Prince Consort's address in 1859 there was no direct reference to medicine or its allied sciences, save for a passing mention of chemistry, and only a few medical contributions are to be found in the report of the work in the Section of Physiology, but among those who submitted papers were such well known men as G. H. Lewes, Michael Foster, and A. B. Garrod. In the address of the Prince of Wales, on the other hand, medicine occupies an important place, and especially State medicine and hygiene in their widest sense. Nothing more clearly marks the difference between 1859 and 1926 than the attitude of science and the State to one another. As the Prince says: "There was an element of mutual distrust between Science and the State. A strong body of scientific opinion was avowedly afraid (as Sir George Airy phrased it) of organizations of any kind dependent on the State." There may be objections to the methods of the State, but nowadays men of science, probably the great majority of them, realize that it is better that the State—or the community, as the Prince put it—should interfere and take action rather than that beneficial action should not be taken at all. So far the forebodings expressed by Sir George Airy and others have not been justified.

The appointment of the Medical Research Committee under the Insurance Act and its development into the Medical Research Council directly responsible to the Privy Council has, thanks to judicious direction, led to great gains in knowledge and is leading to advances in treatment. Now that the instruments and methods of research are so complicated and often laborious, it is no longer a question of a microscope, a few test-tubes, and the spare moments of a busy practitioner. Regret it though we may, we have to admit that great advances are only likely to be made by team work in well equipped laboratories and by men who are able to devote most, if not all, of their time to the work. Collective investigation, which was long ago fostered by the British Medical Association, plays a large part in public health studies, and its possibilities have by no means been exhausted; but to be successful it requires the attainment of a certain minimum degree of skill in the investigators. We remember to have seen an estimate of the profit and loss account, if we may so style it, between the French State and the endowment of research, in which it was demonstrated that if only Pasteur's researches had resulted from these endowments the profit from the economic application of his scientific work would be enormous. The Prince told his hearers of more than one piece of research work which missed its original aim yet resulted in valuable results achieved by progress in a direction not anticipated. For instance, the Government's fuel research station has not yet proved the hoped-for commercial possibility of the low temperature treatment of coal which would result in the production of the more economical smokeless fuels, oils and gas, but it has shown the possibilities of unexpected economies which are well in excess of the cost of the research.

Few people, perhaps, fully realize the magnitude of the work undertaken by the Committee of the Privy Council for Scientific and Industrial Research, and the President of the British Association has rendered a public service in drawing attention to it. There are eleven research boards under this department, some of which direct the work of committees to the number of thirty-six in all, as well as the Geological Survey and the National Physical Laboratory. The Building Research Board has made most extensive and valuable investigations into every circumstance affecting house building, and aims at creating a real science of building. The work of the Food Investigation Board is obviously of the very greatest importance. On its researches depend questions and decisions fraught with the very greatest effects on the health and the future physique of the nation. Not only does it deal with the actual composition of food, its adulteration, and the effect of preservatives of various kinds, but also with the great and increasingly important question of cold storage and its drawbacks and advantages. Notwithstanding all these and other Government activities there still remains, as the Prince was careful to tell his hearers, a vast field for the enterprise and industry of societies and individuals who are interested in various branches of science. The Indian Government has always favoured scientific methods, and its

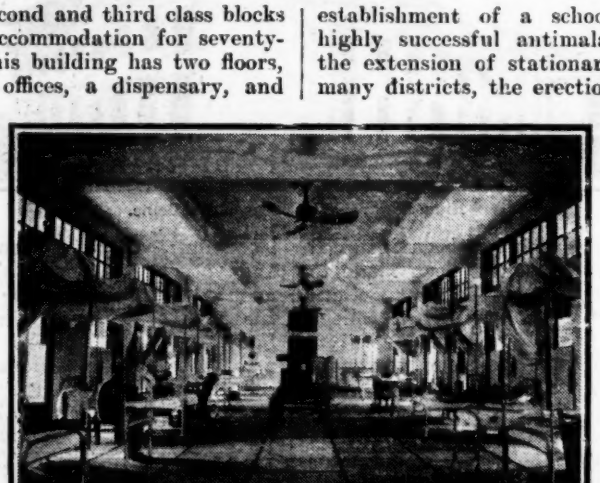
tion to the administration offices, observation and detention wards are provided. All the wards have verandahs which serve as day-rooms for the convalescent patients; beds can also be moved out on to these verandahs, so that patients may obtain the full benefit of light and air.

The block of third-class wards similarly includes five pavilions connected with each other by corridors, staircases, and lifts. The floors of the wards are in smooth cement, and all the sanitary blocks are cut off from the main buildings by ventilation lobbies. There are seventy-two beds in the reception ward and one of the ordinary wards; the three other wards each contain ninety-six beds. Two second and third class blocks for female patients have each accommodation for seventy-two. The admission block in this building has two floors, and includes subadministrative offices, a dispensary, and observation, detention, and reception wards. There is also a minor operating theatre block, with a theatre on each floor. Provision is made in an isolation block for chronic and observation cases. Separate kitchens for Mohammedans, Sikhs, and Bengalis are provided in the third-class block.



First-class Wards and Administration Block.

A simple style of architecture was adopted throughout so that all the buildings might be constructed as economically as possible. The new hospital has been designed in accordance with the most modern principles, applied with special consideration for the requirements of tropical conditions. The buildings were erected independently, eleven contractors being employed: each building was equipped and occupied as soon as it was ready. Adequate hospital accommodation is thus now provided for a growing city of over 400,000 inhabitants, for whom previously only 250 beds were available. The building was begun in 1920.



Interior of Ward for Seamen.

OPENING OF THE HOSPITAL BY THE GOVERNOR.

Speaking at the opening ceremony on March 29th, Dr. A. L. Hoops, the principal civil medical officer, referred to the active support for many years given by the Governor, Sir Laurence Guillemard, to the improvement of public health in Malaya, the reorganization of the medical departments after their depletion during the war, and his encouragement of the provision of the most modern methods for the prevention and treatment of disease. He reviewed the progress made, and mentioned particularly the establishment of a school for sanitary inspectors, the highly successful antimalarial and hookworm campaigns, the extension of stationary and travelling dispensaries in many districts, the erection of hospitals and leper asylums in Penang, Malacca, and elsewhere, and the provision of quarantine stations, convalescent homes, and maternity hospitals. The Governor, replying, emphasized the high importance in administrating a tropical colony of attention to the public health. For this it was necessary to provide such material agencies as institutions for medical treatment, with fully trained and skilful medical and nursing staffs, but it was also vital that those concerned in this work should be inspired with, and be able to communicate to their patients, that faith which was the central principle of the Aesculapian cult from which the art of healing had sprung. Galen's message, "He cures most successfully in whom the people have the greatest confidence," would be fully accepted and its implications recognized in practice by each member of the staff of the new hospital.

SOCIETY FOR THE PREVENTION OF VENEREAL DISEASE.

THE seventh annual general meeting of the Society for the Prevention of Venereal Disease was held at 143, Harley Street, on July 28th, Dr. J. H. SEQUEIRA, the chairman of the Executive Committee, being in the chair.

The following resolution was proposed by the CHAIRMAN, seconded by Mrs. LATTER, chairman of the Women's Committee, and carried unanimously:

> That this annual general meeting of the Society for the Prevention of Venereal Disease respectfully urges the Government to grant facilities to the Venereal Disease Act, 1917, Amendment Bill, in view of the support that it has received from the British Social Hygiene Council and the Society for the Prevention of Venereal Disease and the medical members of the House of Commons.

The CHAIRMAN suggested that the first sentence of the memorandum of Sir George Newman, Chief Medical Officer of the Ministry of Health, entitled *An Outline of the Practice of Preventive Medicine*, should be adopted as the motto of the society, the sentence running: "The first duty of medicine is not to cure disease but to prevent it." The report of the late Sir William Leishman on the health of the army was quoted, and the remarkable fall in the incidence of venereal disease during the last four years was brought to the attention of the meeting, which, the report stated, was attributable to the advance made in the prevention, diagnosis, and treatment of these diseases, and to the vigorous antivenereal disease propaganda.

Mr. H. WANSEY BAYLY, the honorary secretary, gave an account of the society's work during the past year, and said that "not only in this country, but throughout the civilized world, there were indications that there had developed an appreciation of the danger of neglect of the venereal menace and a recognition that education in immediate self-disinfection was one of the important means of meeting this drain on the health, industry, and purse of nations and individuals."

Mr. BASIL PETO, M.P., was elected president of the society, and stated that the House of Commons was beginning to realize the importance of the society's work, and that all the medical members of Parliament with one exception, and many lay members of all political parties, had promised their support to a bill to amend the Venereal Disease Act, 1917, so as to permit the sale by chemists of approved disinfectants, accompanied by approved printed instructions, as recommended in the report of Lord Trevethin's Committee of Inquiry.

Mr. HARRY MACHIN, the honorary treasurer, emphasized the necessity of obtaining financial support from the public in view of the fact that the society received no Government grant and was entirely dependent upon the subscriptions and donations of those members of the public who realized the national importance of its work.

at hand, in guide-books and pamphlets, for those who aspire to the writing of medical papers. The rest is a matter of taking pains. "Write and re-write," says Dr. Simmons, "re-write again, and then revise!" For, contrary to the view of Dogberry (and of some others, even in our profession), writing does not come by nature.

ALCOHOLISM IN FRANCE.

SOME months ago we noted the appointment by the Académie de Médecine in Paris of a committee to investigate the increase of alcoholism in France. At that time the sale of absinthe had been forbidden, but some alarm had been caused by the increased consumption of what were known as absinthe substitutes. The report of the committee, presented to the Académie by Dr. Marcel Labbé, is an interesting document of some length written with a fair measure of restraint. It appears that before the war many were becoming concerned at the increase in alcoholism in France. During the war restrictions were imposed on the manufacture and sale of strong alcoholic beverages, with the result that their consumption was considerably reduced. The reduction of alcoholism which followed has not been maintained, and statistics show that the admissions to asylums for lunacy due to alcohol, which during the war had decreased enormously, have since 1919 increased until they now exceed the figures of 1914. The committee attributes this increase in alcoholism very largely to the home manufacture of brandy. The privileges of the *bouilleurs de cru* were greatly restricted in 1916; they were restored in 1923, with the result that in some villages, as one speaker put it, every school child carries in his basket food that has been flavoured with brandy; meanwhile the villagers declare that their spirits must be harmless, since they are a "natural product," made at home. The committee finds that the prohibition of absinthe has been most successful, and that there is no sign of an alcoholism from the popular anise essence by which it has been replaced comparable to that which was formerly caused by absinthe itself. At the same time Dr. Cazeneuve's demand for more vigorous control of absinthe substitutes is approved. It appears that the consumption of spirits, liqueurs, strong wines, and appetizers, although increasing, has not yet reached the pre-war level. The consumption of wine is also a little less than in 1913. Beer-drinking is very much less, possibly owing to the destruction by the Germans of many large breweries in Northern France. The consumption of cider varies with the productiveness of the apple trees. Speaking generally, the consumption of strong distilled liquors is tending to be replaced by fermented liquor. The committee finds, however, that there has been considerable change in the classes of people who now drink to excess. There are fewer really heavy drinkers than formerly; there are more people, and of a different class, who take too much, and the report deplores the extension of the drinking habit to women. Drinking to excess is as common now among middle-class women as it used to be among washerwomen, cooks, and prostitutes; cirrhosis of the liver, it is stated, is now twice as frequent among female hospital patients in Paris as among male. The encouraging fact is noted that the drinking habit is becoming rare among the younger workmen, from 25 to 40 years of age; this is attributed to the growing love of sports, and to better conditions in the home. The peasant, owing perhaps to the revival of the home manufacture of brandy, does not show the same improvement. The report reviews the various measures which can be adopted for the reduction of alcoholism, from prohibition as practised in America to education and propaganda. Total prohibition is rejected as in itself worse than useless, and because in France, the land of vineyards, it would be impossible. The recommendations of the report, unanimously adopted by the Académie, are: that laws promulgated against alcoholism during the war should remain in force; that the home manufacture of brandy should be suppressed; that the excise on alcoholic beverages, fermented and distilled, should be increased; that the use of "cocktails" should be regarded as dangerous to health; that regulations as to absinthe substitutes should be revised and enforced; that the number of wineshops should be limited; that temperance should be helped by the construction of healthy dwellings and the provision of popular resorts where only non-alcoholic beverages would be sold; that a law similar to that which has been successful in Norway and Belgium was desirable, prohibiting the sale by retail and the consumption in wineshops of beverages of greater alcoholic strength than 14 degrees, and the selling in grocers' shops of less than two litres; that the utilization of grapes and non-fermented grape juice for food, and of alcohol for industrial purposes, should be promoted; and that anti-alcoholic education and propaganda should be organized among all classes. At the meeting of the Académie on June 29th Dr. M. Letulle made a spirited attack on *apéritifs*, which he described as "infernal drugs" and classed with the medicated wines (as he said, *horresco referens*) with which in his youth the venerable family doctor used to torture his stomach.

REGIONAL TOWN PLANNING.

SINCE the Town Planning Act came into force in 1919 thirty-seven joint town planning committees have been formed; they cover an area of nearly six million acres. The matter is specially urgent in respect of London, which is now extending at a surprising rate to the west and north-west into Berkshire and Buckinghamshire. At a meeting at Wycombe last March the Council of the Institution of Municipal and County Engineers discussed the desirability of bringing to the notice of the local authorities of the South Bucks and Thames-side region the importance of regional planning. The district is a countryside of rare beauty crossed by the Chiltern Hills; it contains the Royal Castle of Windsor and some of the loveliest reaches of the Thames. Extensive industrial developments are, however, taking place especially at Slough in the vicinity of Eton College and Windsor Castle, and the area generally is becoming almost metropolitan. The outward spread from London and increased facilities of communication, including electrification of railways, tend to foster building development. Recently the local authorities concerned met to discuss the matter, and most of them decided to form a joint town planning committee. Most of the councils which have taken up town planning, being urban districts with a population less than 20,000 or rural districts, are not under any legal compulsion to interest themselves in the matter. Piecemeal development tends to lead a council into large expenditure, joint development allows grouped communities to arrange economical public services and communications, the countryside is not destroyed, the restfulness of country life remains, and efficient local government is ensured. No large expenditure on public works is necessarily involved; the present aim should be to prepare an attractive programme of developments which would place a definite aim before the public. In joint town planning areas (perhaps better named regional areas), especially those near large and spreading centres of population, the reservation of tracts of country for growing fresh food (vegetables in particular and also for dairying) must be considered. When studying the area such items as surface geology should receive attention so that this factor is given due weight when the allocation of the different

investigations have long been famous. The Dominions are now, like the Mother Country, endowing and carrying out researches into the manifold problems raised by the development of new countries, and the introduction, not always fortunate, of organisms from their old habitats into new environments.

The address of the Prince of Wales ends on a note of cheerfulness and hope and belief in the future benefits to be derived from science. Whether the coming years are to be bright or gloomy, this much is certain—that only by employing scientific methods to the fullest possible extent can this nation hope to maintain its standards of life and comfort.

THE WRITING OF MEDICAL PAPERS.

A STERN critic has said that the most serious vices of modern English prose are indifference to the origin and proper meaning of words; neglect of order and rhythm; a tendency to prefer the abstract to the concrete; the use of nouns instead of verbs; and an indolent acquiescence in worn-out phrases. But these abuses of language, he added kindly, are less harmful than the general paralysis of structure which deforms almost all modern writing. Criticism of this sort, though it may be salutary, is negative, to say the least. Those who like positive advice will prefer the opening sentence of *The King's English*: "Any one who wishes to become a good writer should endeavour, before he allows himself to be tempted by the more showy qualities, to be direct, simple, brief, vigorous, and lucid."

It would be strange if medical authors—whose main business is not letters but science and sick people—were free from the errors of current prose. For their guidance there are, however, several finger-posts. Sir Clifford Allbutt's admirable book on the composition of scientific papers[1] has helped countless writers of graduation theses to put their material together in clear and logical order, and to express themselves in decent English. Many besides Cambridge men are grateful to that little green volume for its hints on literary craftsmanship, and its warnings against such common blemishes as wordiness, slovenly arrangement, and the abuse of technical jargon. Further practical aid has been given by Sir Humphry Rolleston in his pamphlet on the writing of theses for medical degrees,[2] and by Mrs. M. H. Mellish, editor of the Mayo Clinic publications, in her small manual on the preparation of medical papers.[3] Another pamphlet of suggestions to medical authors, popularly known as the "A.M.A. Style Book,"[4] has been issued for many years past by the American Medical Association, to help would-be contributors in arranging manuscript, and to show the typographical practice laid down for the *Journal of the American Medical Association* and its associated publications. The veteran editor of that journal, Dr. George H. Simmons, some time before he relinquished its active conduct, gave an address on medical periodical literature, and this review of an experience of thirty years of medical journalism was discussed in our issue of April 29th, 1922. Having noted the faults that disfigured so many of the manuscripts sent to him, Dr. Simmons proposed one remedy for them all: that the art of writing should be more carefully studied and all writings submitted to thorough revision. Medical authors, in short, must learn to write better and take more trouble.

For the benefit of those seeking to follow his good counsel Dr. Simmons and his successor, Dr. Morris Fishbein, collaborated early last year in a series of articles which appeared at weekly intervals in their columns. These were in large part an outgrowth of the "style book" already mentioned, and, with some added matter, they are now republished in book form under the title *The Art and Practice of Medical Writing*.[5] Our colleagues begin by giving their readers an idea of what a paper ought to be, and why three-fourths of the manuscripts voluntarily offered to the *Journal of the American Medical Association* are rejected. Here we are glad to see the point made firmly and plainly that, while an author's rights must be respected, the medical editor's first duty is to his readers, whose rights are paramount. The second chapter indicates some common vices of style, with "specimens from real life"; the third discusses choice of subject and material, with hints on the writing up of a case report for publication; the fourth is mainly about the importance of title and sub-headings in the framework of a well built paper; and the fifth is in effect a protest against the misuse of certain words and phrases (like "to operate the patient") by medical authors on the other side of the Atlantic, and the overdoing of our old friend "marked" as the maid-of-all-work medical adjective. The next five chapters, on such things as spelling, abbreviations, and the use of capital letters, follow American usage, which differs a good deal from that followed by English printers; in this country Horace Hart's rules for compositors and proof readers at the Oxford University Press form a convenient guide. Chapter eleven tells the beginner how to hunt up references and what to avoid in compiling a bibliography. This is followed by three chapters on the technical side of preparing manuscript, pictures, charts, and tables for the press. Would that we could persuade all our own contributors to take it from Dr. Simmons that there really are "practical reasons why editors prefer good, clean copy."

The concluding chapters give sound advice on revising the text of an article and the correction of proofs. The former is especially valuable for its insistence on the pruning knife as the writer's best friend. Here will be found the sad but most instructive tale of an essay printed in a medical journal (American but unnamed) which "presented most of the faults mentioned in this book, as well as many of those referred to in elementary books on grammar and rhetoric." This paper, 2,800 words in length, had evidently been flung to the printer without revision of any kind. The average number of words to a sentence was 84. By way of object lesson one paragraph, consisting of a single inchoate sentence of 208 words, is quoted. The reader then sees, on the opposite page, how a subeditor who knows his business could have cut this down and broken it up, greatly to its advantage, into seven sentences containing 123 words in all. With further pruning, also shown in graphic form, the paragraph is brought down to five sentences and 98 words.

What, then, is the conclusion of the whole matter? It will be found in a sentence of Clifford Allbutt's: "Take pains, therefore; with yourself first, then with your reader." As we have shown, ample help is now

[1] *Notes on the Composition of Scientific Papers.* Third edition. London: Macmillan and Co., Ltd. 6s. net.
[2] *On Writing Theses for M.B. and M.D. Degrees.* Second edition. London: John Bale, Sons and Danielsson, Ltd. 1s. net.
[3] *The Writing of Medical Papers.* Philadelphia and London: W. B. Saunders Company, Ltd. 7s. 6d. net.
[4] *Suggestions to Medical Authors and A.M.A. Style Book.* Chicago: American Medical Association. 25 cents.
[5] *The Art and Practice of Medical Writing.* Chicago: American Medical Association, 1925

section was a collection of photographs of yaws in all stages, showing some very unusual lesions. The pictures were taken in the South Pacific by Dr. P. A. Buxton. The subject of basal metabolism was treated by Dr. E. G. B. Calvert, who gave a demonstration on Tuesday afternoon. A number of slides of a supposed cancer-producing organism were on view, but, unfortunately, none of the lesions caused by these organisms were presented. The Museum was a striking testimony to the ever-increasing importance of *x* rays in medicine, surgery, and pathology. Mr. A. H. Simpson of University College, Nottingham, a pioneer worker in 1895, showed a number of his early plates and photographs, and gave an interesting description of his experiences. In 1895 they happened to have in the department of physics a tube with a high vacuum, which had been made for Professor Crookes. With this they attempted to repeat Röntgen's work. They only had a 5-inch induction coil; there was no target, and the cathode rays went on to the whole side of the tube. Hence it was not possible to take sharp pictures. They worked with very slow photographic emulsions. In taking a picture of the hip-joint they had to use an exposure of forty-five minutes. Later they had a more powerful coil, but even then the exposure for a hand or foot was five minutes. Many children were brought to him for foreign bodies in the larynx or oesophagus, and he was usually successful in finding and removing them. The *x* ray was a popular amusement for nurses and parents, and for their entertainment he would show them the bones of his hands. The result was that all his nails came off. To protect himself he had a pair of chain-mail gloves made. Nevertheless he was still suffering from dermatitis contracted twenty-five years ago. Fortunately it had gone no further, and he had found that when a patch of dermatitis occurred he could cure it by radium, and it would remain healed for about six months. In spite of the difficulties which had to be contended with, the pictures he showed of thirty years ago of bones and foreign bodies did not compare unfavourably with those produced in more modern times. He was, however, unable in those days to take pictures of soft parts. From 1895 to 1926 is a long stride, and the audience passed from Mr. Simpson's historical demonstration to that of Dr. A. Gurney Yates (Sheffield), who showed the latest method of diagnosis of spinal lesions by lipiodol. This preparation, an oil of black poppy, containing iodine, was heavy, opaque to *x* rays, and quite harmless when injected into the meninges. Professor Séquard of Paris had introduced the method for the localization of lesions blocking the spinal theca. The lipiodol was introduced by cisternal puncture, and the patient *x*-rayed as soon as possible afterwards. If no obstruction was present the lipiodol collected almost at once at the lower end of the theca. In cases of obstruction, such as tumour, adhesions, or thickening of the meninges, the lipiodol accumulated at the level of the lesion. In partial obstruction the lipiodol would be held up for a greater or lesser time, and the *x*-ray examination might show some of the substance above and some below the block. In pictures from a case of meningitis there was a curious network of the substance which had been caught up and entangled in the numerous adhesions. Advances in radiography of the central nervous system were also shown by Mr. A. P. Bertwistle in his demonstration of cerebral localization by *x* rays. The contribution of radiography to diagnosis and pathology was likewise a prominent feature of the admirable collection from the Brompton Hospital, a collection consisting of specimens of different types of chest disease with *x*-ray photographs both with and without injection of lipiodol into the bronchial tubes. The cases of bronchiectasis, in particular, were most instructive. Dr. Kilian Clarke, Dr. Lane, and Dr. Bywater deserve the warmest congratulations on the success of the museum for which they were responsible.

THE "CRIPPLES' JOURNAL."

The appearance of the July number of the quarterly known as the *Cripples' Journal* marks what should prove to be an important stage in its development and consequent usefulness, for it is its first issue as the organ of the Central Committee for the Care of Cripples. The journal was started two years ago and published by the Shropshire Orthopaedic Hospital at Oswestry, but, as stated in the April number, the management took the enlightened view that its usefulness to the cripple would be much increased if it ceased to be identfied with one hospital and were made representative of all the activities and influences which serve the cause throughout the country. It has therefore been handed over to the Central Committee with a generous donation towards its development, and now appears with the committee's imprint and that of Messrs. John Bale, Sons and Danielsson, Ltd. It should have a prosperous career, for if it keeps up the literary and scientific standard of the past two years it will deserve success. In this number the editorial by Mr. G. R. Girdlestone on the work of the committee reinforces the appeal which he made in his Scheme for the Care and Cure of Crippled Children. Messages of encouragement are printed from, among others, Dr. Murk Jansen of Leyden, Mr. J. St. Loe Strachey, the Duchess of Atholl, M.P., and Sir Robert Jones. Dr. Murk Jansen contributes a suggestive article in which he lays stress on the physical deterioration of the Dutch people, and states that the consumption of tobacco in Holland per head has trebled in the last fifty years, and is now eight times as great as that of the average European. Although he refrains from drawing any conclusion from these facts, without further study, the significance of his figures may be realized when we read in another article in the same issue that in our own country 128,000,000 lb. of tobacco are consumed every year. Professor Edward Mellanby contributes an excellent article on the cause of rickets as revealed by experiment. Miss E. Storr tells a moving story of orthopaedic work in northern Newfoundland and Labrador with which the name of Dr. W. T. Grenfell must always be associated. Miss Maude Royden writes from the point of view of a cripple herself, and condemns —in her own case—all mechanical help, not because of any inefficiency, but for aesthetic reasons and because of its "branding into my perpetual consciousness the fact of my lameness!" Happily, all cripples are not so sensitive. Many other articles and paragraphs help to make up a most interesting number.

CLINICAL MEDICINE IN NORTH AMERICA.

In the current number of *St. Bartholomew's Hospital Reports* Professor F. R. Fraser publishes his report to the Rockefeller Foundation on the teaching of clinical medicine in medical schools in America after his visit in the spring of 1925 to fifteen of these medical schools.[1] Interesting throughout, special attention is naturally attracted to the description of the differences between the American and the British arrangements and methods of instruction, which provides material for consideration of any possible improvements that may be made in our routine. Since Abraham Flexner's report to the Carnegie Foundation on "Medical Education in the United States and Canada" (1910) the number of medical schools in America has diminished by the elimination of the least fit, and there now are more candidates than the better schools can admit. Some schools select a comparatively small

[1] Fraser, F. R.: *St. Bartholomew's Hosp. Rep.*, 1925, lix, 35-47.

parts of the area for different purposes is being considered. Healthy sites should be reserved for housing, stable soils for heavy industries, fertile soils for cultivation, mineral deposits for exploitation. It would seem somewhat unfortunate that the medical aspects of town planning do not seem always to be sufficiently recognized; county medical officers are not invariably invited to such meetings. Some county councils consider that they should be given powers in connexion with such regional planning; at present they afford voluntary help—for example, the county surveyor often works out a survey designed to assist in the delimitation of all future building lines on county roads. But these are details; the main point is that there is reason for hoping that the England of the future, although a more urbanized England, will still retain some of its pristine beauty, even in the vicinity of large towns.

THE SALMONELLA GROUP OF FOOD POISONING BACILLI.

The importance of the Salmonella group of bacteria in causing food poisoning has led to careful study of its various types which can, for the most part, only be distinguished from each other by serological tests. An attempt to co-ordinate the terminology of this group was made by Mr. T. Bruce White, and his conclusions were published last year in the Medical Research Council Report, No. 91 (Journal, 1925, vol. i, p. 373). He has since been engaged in studying the antigenic modifications associated with "rough" variations in this group, and in attempting to determine the relative antigenic constitutions of several old and new Salmonella types. The results of his work are collected in No. 103 of the Special Report Series of the Medical Research Council.[1] He now suggests that three classes of this group of organisms are distinguishable—namely, the meta-Salmonella types, a monophasic, and a diaphasic type, and that the Aertrycke type occupies a central and primitive position in the group. Data on which his conclusions are based are presented in detail, and the present publication, which should be read as a sequel to his previous report, appears to be a useful step forward in defining the mutual relations of the members of a hitherto confusing group of micro-organisms.

UVEO-PAROTITIC PARALYSIS.

Dr. George Parker of Bristol[2] has collected and tabulated sixteen cases of a rare syndrome, uveo-parotitic paralysis, which is characterized by inflammation of the uveal tract, parotid swelling, facial paralysis and often paresis of various muscles, multiple neuritis, and an erythematous rash on the legs and trunk, with or without fever. It appears that three cases have occurred within recent years in the Bristol district. Before 1909, when Heerfordt first described the syndrome on the basis of three cases at Copenhagen, the condition was regarded as an aberrant form of mumps, and some writers are of the same opinion still; but in none of the collected examples was there any connexion with cases of that disease. Bacteriology has so far failed to reveal the underlying infection, so that an absolute decision can hardly be reached at present; the suggestion that it is a deficiency disease has even been made. The average age of onset is 31 years, and females are more often attacked than males, thus contrasting with the incidence of mumps. The blood has been found to show a leucopenia instead of the lymphocytosis in mumps, but, on the other hand, the cerebro-spinal fluid has shown some lymphocytosis. Both parotids are generally affected, and as a rule there is double but asymmetrical facial paralysis. The order in which the symptoms appear and their duration show much variation; in one instance the parotid swelling persisted for two years. In addition to erythema, which may resemble erythema nodosum, there may be urticaria and oedema of the ankles, legs, and below the eyes. Occasionally other cranial nerves are affected. In the same number of the journal Miss B. Rogers and Dr. Bodman[3] report a fatal case of polyneuritis preceded by inflammation of the parotid, salivary, and mammary glands, which is included in Dr. Parker's collection but differs from most of the other cases in two important particulars—the absence of definite uveitis or irido-cyclitis and the presence of severe cerebral disorder, and the occurrence of cardiac failure. Dr. Parker has done the profession a service by subjecting this strange syndrome to so thorough a critical analysis.

THE PATHOLOGICAL MUSEUM AT NOTTINGHAM.

The feature of this year's museum was the close collaboration between physician, surgeon, pathologist, and radiographer in the exhibition of specimens. It has always been taken for granted that a knowledge of pathology is essential to correct diagnosis, but seldom has this important truth been more clearly and forcibly presented. The collection consisted chiefly of exhibits by those responsible for demonstrations in illustration of their own topics. The president of the Pathological Section, Professor Sholto Douglas, contributed a number of organs from cases of leukaemia (which formed the subject of Friday morning's discussion) as well as a beautifully mounted series of tuberculous guinea-pigs, which he used to demonstrate the complete failure of diaplyte vaccine in the treatment and prevention of tuberculosis. The vaccine, made by Dreyer's method, was prepared from the same human strain of tubercle bacillus as that used for the inoculations. It was injected into different groups of guinea-pigs before inoculation, at the time of inoculation, and after infection with the tubercle bacillus. In no case had the vaccine the slightest effect in checking the disease. Interesting specimens of aneurysm, of lesions of gall bladder and intestines, and many others, also came from the Sheffield department. Mr. E. F. Finch (Sheffield) showed twelve specimens of portions of the stomach removed at operation, chiefly from cases of chronic ulcer. These formed the subject of his demonstration on examples of gastrectomy for gastric ulcer. Dr. H. Gleave (Sheffield) exhibited specimens, sections, and x-ray pictures from an important case of osteoclastoma (myeloid sarcoma) with pulmonary metastases, a most unusual development in tumours of this kind. Gynaecology was well represented in the museum. Of great interest were the endometriomata collected by Dr. W. W. King, also of Sheffield. Beside them were some beautiful specimens and slides of chorionic carcinomata from a vesicular mole and from a testicular tumour, shown by Dr. W. D. Newcomb of St. Mary's Hospital. An exhibit which attracted a great deal of attention was the series of pituitary tumours from the National Hospital, Queen Square, demonstrated by Dr. Macdonald Critchley. They comprised a great variety of cysts and tumours, including an adamantinoma, and showed clearly the relation between the position of the growth and the patient's symptoms. Dr. Strickland Goodall of the Heart Hospital, London, exhibited some very interesting drawings and slides of thyrotoxic myocarditis, electrocardiograms showing the mode of action of the heart in anginal attacks, and a series of "broken hearts"—that is, rupture of the heart from various causes. In the tropical disease

[1] London: H.M. Stationery Office, or through any bookseller. Price 5s. net.
[2] Parker, G.: *Bristol Med.-Chir. Journ.*, 1926, xliii, 73-83.
[3] Rogers, B., and Bodman, J. H.: Ibid., 84-90.

Nova et Vetera.

WEST AFRICA AND ITS DISEASES A CENTURY AGO.

A HUNDRED years ago Sierra Leone was reputed "the white man's grave," and I had always wondered about its health conditions; a century-old account of the climate and diseases of West Africa, by James Boyle, M.C.S.L., Colonial Surgeon to Sierra Leone, in the library of the Royal United Service Institution, "presented by the Author," therefore promised welcome explanation. It is an octavo of some 450 pages, published in London in 1831. The author joined the navy in 1813 as an assistant surgeon, was promoted surgeon in 1820, and served till 1835, when his name disappears from the *Navy Lists*. During his time he served in the East and West Indies, and afterwards (1822-24) in H.M.S. *Cyrene* on the West Coast of Africa, so that he had a large experience of tropical climates and diseases when he became Colonial Surgeon to Sierra Leone in 1827; he continued there till 1831. He was the author of several other medical works, and it is of interest to examine how the diseases of that time and place appeared to this industrious and experienced medical officer, what objective medical facts he reported, and what ideas emerge of the current illnesses and the causes of a mortality so excessive as to give the West Coast of Africa that terrible reputation, particularly as he prides himself that his is the first book ever published on the diseases of that coast. In the following account of Sierra Leone and its diseases the author's phraseology has been largely adopted.

As to statistics, he states that in three years (1819-21) the number of white men who arrived for the first time was 19, and that 7 of them (37 per cent.) died in their first year; of the general white population, then averaging 40, 5 (12 per cent.) died in each of those years. In 1824 the soldiers who arrived numbered 300, and from April to the end of the year, out of an average strength of 465 whites, 211 (45 per cent.) died of fever. In 1830 Freetown had 120 white and 25,000 native inhabitants. In 1924[1] there were 600 white civilians, of whom only 5 (0.8 per cent.) died, so that the picture has completely changed. Between 1827 and 1831 inclusive the navy on the station lost 20 per cent. its crews.[2]

Sierra Leone, Boyle says, is a lovely place on a fine day. Freetown has wide, well cambered streets, with two-storied houses for Europeans, and a fine mountain behind. Even the pestilent Bullom shore, seven miles off to the north-east, covered with bush, looks beautiful in fine weather. That shore is marshy, and generally to windward. In the dry season the dry Harmattan wind brings from it much dust; in the rains (April to October) the tornadoes bring over malaria and the poison of yellow fever.

The chief disease of the country, according to Boyle, is the bilious remittent fever, caused by malaria, the result of exhalations from decaying vegetable or animal matter. The climate, too, has an intrinsic quality that makes it deadly. Sol-lunar influence, besides, is powerful in the production of fever. In the sun, men suddenly drop down dead; while men who sleep on the upper deck, exposing themselves to the apparently harmless beams of a brilliant moon, have often been known to be affected suddenly with fevers—too suddenly for this to be ascribed to damp or falling dew. But some diseases (undescribed) are due to overcrowding, and are unfairly credited to the climate. Hepatitis and its sequel dysentery are mainly due to bad drinking water. To improve health, the bush should be thoroughly cleared, the area burned over, the ground drained, and the pools filled. The extension of towns and spread of agriculture always lessen malaria, and may even change the type of fever. (This statement may be compared with the views expressed by Sir Malcolm Watson in his *Malaria in the Federated Malay States*.)

The important diseases are fevers and hepatitis (which includes dysentery), and there is also guinea-worm. Diseases now thought serious—pneumonia, diarrhoea, small-pox, and tetanus—have but the briefest mention.

The characteristic disease is the bilious remittent fever, which may be climatorial, endemic, or irregular; the forms are clinically very similar, and only to be distinguished by the history. Climatorial fever only occurs on board ships; once a person has gone ashore the next to attack him is the local or endemic bilious remittent, which does not recur; later fevers are the irregular forms. This is important as a guide to treatment. There are also the intermittent fever, or ague, with its characteristic stages, and the epidemic fever known as yellow fever, which comes in bursts and is very deadly.

The climatorial remittent fever, Boyle says, begins with chilliness and loss of appetite, severe headache, epigastric pain, constipation, great heat of skin, suffused eyes, pains in the joints, pulse 90 to 140. As regards treatment, blood-letting to 30 oz. is generally necessary—it lessens headache and brings the pulse down; purging is needed, and mercurials are always exhibited. After recovery cinchona should be given. Prevention on board also was necessary; drunkenness should be done away with, and cleanliness, dryness, and ventilation by ports, scuttles, and windsails secured. Brodie's swinging stoves should be used to dry the air, especially after washing decks.[3] In my opinion this is a very good account of the "disease of overcrowding of ships," on which, as a result of experiences at Malta and Zanzibar, I read a paper to the Epidemiological Section on March 26th, 1909[4]; certainly the symptoms and the methods of prevention are the same.

The local or endemic bilious remittent fever is characterized by the vomiting of bile. It occurs chiefly at the beginning and end of the rains. Exciting causes are intemperance, extreme abstinence, fear, and sexual over-indulgence. The symptoms are just those already stated, but it is often preceded by an aguish rigor. Bad cases may become intensified into sporadic cases of the epidemic fever; recovery is often followed by ague. In this type of fever blood-letting does harm and makes convalescence tedious. The blood neither buffs nor cups [polymorphopenia]. The routine treatment is with mercurials, to set up salivation—calomel in 20-grain doses, perhaps every two hours. Above all things, says Boyle, do not move the patient, and beware of collapse; he himself, in collapse, was once declared dead by his medical friends—hence this warning. Apart from clearing the bush, prevention deals only with the avoidance of intoxication. The disease is seated in the stomach, which is always inflamed *post mortem*. Attention is not directed to the spleen, constantly reported enlarged. The irregular bilious fever is a mild remittent; besides there is ague. Blood-letting should not be done for either; for ague, quinine should be given up to 20 grains a day.

There were only occasional outbreaks of the epidemic or yellow fever—in 1823 and 1829, for example. In May and June, 1829, there were 34 cases, of whom 25 died; of 8 with black vomit, 7 died. These last were all in houses on the front, exposed to the wind from the Bullom shore. One victim had survived for twenty years in the colony.

The other great disease of the district is hepatitis; this, says Boyle, is rare in Sierra Leone (except imported), as the water is good; it is common on the Gold Coast, as the water is bad. The symptoms are frequent hard pulse, acute pain in the right side and at the top of the right shoulder. Treatment is by free bleeding and mercurial purges; if these do not relieve the pain, renewed bleeding, or leeches, and blisters. If pain disappears during the acute stage the patient may be poulticed. As to dysentery, its principal cause is drinking bad water, at least indirectly, for it is the liver that is attacked first. In treating this disease, bleeding is discouraged, but salivation is almost necessary. Of ipecacuanha there is no hint. Dysentery was a disease of the slaves in slave vessels, and the navy, which put crews aboard captured ships, suffered horribly. Our author reports some very successful operations, especially for shark bite.

[1] Annual Colonial Office Report.
[2] Admiralty Report on the Diseases of the African Station, 1847.
[3] Compare "The Navy of To-day" (*Times*, March 5th, 1935, p. 15, last column): "sore throats are reduced by the application of heat to dry the damp decks after scrubbing."
[4] *Lancet*, 1909, i, p. 1237.

proportion of the yearly applicants, and when dealing with a large field are thus able to obtain a select student body of high intellectual attainments; medical schools of this calibre, such as Cornell, Harvard, Johns Hopkins, and Washington University in St. Louis, would tend to produce the type of logical, thoughtful researcher or teacher, who, when *in statu pupillari*, need opportunities and guidance rather than the amount of teaching that students of a more moderate mentality need to make them efficient. Medical schools able to accommodate large numbers and without excessive lists of applicants are more concerned to reject the unsuitable than to be exclusive, and as a result the intellectual level of their students will vary enormously, and the teaching required will on the whole be that necessary to breed the sound, steady practitioners so essential for the efficient service of the public; these conditions were noted at McGill (Montreal), Toronto, and Pennsylvania University (Philadelphia). The circumstances of the American schools as regards the selection of applicants are not familiar in this country, and Professor Fraser, of course, does not draw the fairly obvious moral lesson that, although no medical school in Britain can consist solely of the select intellectual students, the professorial unit, like an *imperium in imperio*, provides the appropriate milieu for the manufacture of original workers and the future teachers of medical students. It is perhaps well to recall this function of the medical unit, as there is a danger that it may be rendered difficult by an undue burden of elementary teaching. In some American schools the teaching of anatomy and physiology is compressed into a comparatively short period and is specially correlated with the actual needs of clinical work, and indeed supplemented by demonstration of patients. This may help to solve the difficulties presented by the ever-progressive overcrowding of the curriculum, especially in the case of the student of mediocre ability, but from an educational point of view, particularly for the abler students, it is not without disadvantage. In general the clinical tradition of British organization is imperfectly developed in America; students seldom act as clerks in the general medical wards for more than six weeks, but this is to some extent compensated by the almost universal practice of holding an internship. While clerking the American as compared with the British student is more highly cultivated, in that he is in the way of being encouraged to do original research and undertake some literary investigation bearing on his cases; but this is open to the danger of trying to teach the average student to run before he can walk. On the other hand, this method would, of course, be well suited for the select intellectual students after a full course of clinical clerking such as they get in Britain. That a house appointment should be part of the training of every qualified man is, of course, highly desirable, but it is difficult to see how in our existing conditions this can at present be attained. Professor Fraser touches with wise discretion on the subject of the full-time clinical teacher; he regards a clinical department controlled entirely by a full-time head as suitable for a school with a select student body of high intellectual level, but not for a school with a large number of students destined in the main for general practice. Further, in a big school with a large department of medicine there is the risk that a whole-time director may get so overwhelmed with administrative duties and details that he will become little more than a dean. The desirability of full-time clinical teachers in certain circumstances no longer admits of doubt, but the conditions under which they are established obviously demand careful arrangement and regulation. This well considered report closes with the definite pronouncement that no school can be regarded as offering an efficient up-to-date education unless it includes full-time laboratory-trained clinicians on its teaching staff.

MEDICAL UNDERGRADUATES' TRANSATLANTIC TOUR.

The members of the Cambridge Medical Society, composed of the medical undergraduates of the University, are this month to visit the universities and medical schools of Canada and the United States. The party will leave Liverpool on August 13th. An enterprise of this kind, we believe, has not previously been undertaken by students of medicine in this country, and the fact that some seventy-five undergraduates have promised to take part in the tour points to the enthusiasm which is essential for success. All international meetings must be good in principle, since they show those taking part something of the problems and difficulties with which other nations have to deal. In science experience has shown that such meetings make entirely for good, but in no science can greater benefits be derived than in that of medicine. The members taking part in the present tour cannot fail to see something of the opportunities afforded for medical work, the nature of the clinics and laboratories, and of the advantages and disadvantages of medicine as a career in America. It is hoped that this tour may be the beginning of a wider movement and that the present visit may be returned from time to time by students from across the Atlantic. The present movement has been initiated and organized entirely by the undergraduates themselves, and they will be accompanied by no senior men. In Canada and the United States the proposed visit has met with general approval, and not only has a cordial welcome been extended by the universities, but most generous hospitality is being offered. The party will visit Quebec, Montreal, Kingston, Toronto, Niagara, Buffalo, Washington, Baltimore (Johns Hopkins), Philadelphia, Newhaven (Yale), New York, Boston (Havard), where three days will be spent, and from whence the journey home will be begun on September 21st. The Cunard Company has made special arrangements, and inclusive fares which will not exceed £50 for the round tour. With expenses of food and board where necessary the total outlay for each member should not exceed £60.

POISONS AND PHARMACY ACTS.

The Lord President of the Council has appointed a committee consisting of Mr. E. A. Mitchell-Innes, K.C. (chairman), Mr. L. G. Brock, Sir Malcolm Delevingne, Mr. F. W. Gamble, Sir William Graham-Harrison, Sir Donald MacAlister, Bt., M.D., Mr. E. T. Neathercoat, Mr. Colin Smith, Mr. G. Stubbs, Sir William H. Willcox, M.D., and Mr. A. E. Young, to consider and report whether any modifications are necessary or desirable in the Poisons and Pharmacy Acts—(1) in regard to the conditions relating to the sale of poisons; (2) in regard to the procedure for the modification or extension of the schedule of poisons to which the Acts apply; (3) in the system of making and enforcing regulations in regard to the keeping, selling, and dispensing of poisons; (4) in regard to the central authority for the purposes of the Acts; and (5) in regard to any other matters to which the attention of the Committee may be drawn. The Committee has decided to take evidence on matters within its terms of reference, and any person, association, or firm wishing to give evidence or place their views before the Committee should communicate with Mr. M. D. Perrins, Home Office, Whitehall, S.W.1. The Committee will enquire generally into the existing machinery regulating the sale (retail and wholesale), keeping, distribution, and supply of poisons; any consideration of proposals for the inclusion in or exclusion from the schedule of poisons of any specific substance is *not* held to fall within the Committee's terms of reference. Mr. M. D. Perrins (Home Office) and Dr. E. W. Adams (Ministry of Health) are Joint Secretaries to the Committee.

the facilities for their training, and also to afford post-graduate instruction in health administration to prospective medical officers of health.

The matter of medical registration in Australia would also appear to need amending. Each of the six States is a registration authority, so that there are six Registration Acts and six registers. Medical qualifications differ in the various States, which is a source of confusion, and prevents the free transfer from one State to another of medical officers of the Commonwealth Health Department intended to be mobile. The Commission strongly urges that there should be one register, kept by one Commonwealth authority.

This report is framed on a broad plan. It is concerned with Commonwealth questions only, as affecting either the Commonwealth alone or the Commonwealth in its relation to States, for intra-State legislation and administration are not included in the remit. It should be of interest to every citizen of the Commonwealth who aspires to be a member of a vigorous race. It should be of interest also to every British subject in other quarters of the empire who wishes well to those of his own blood south of the line now seeking to evolve a co-ordinated health policy. The problem which the report endeavours to solve is one for which the genius of British peoples in the past has shown a certain aptitude. It is the problem of effecting control without tyranny, and of securing liberty which will not go on to licence. The report of the Commission should receive the attentive consideration of those with whom the decision will rest as to any legislative or other action requiring to be taken.

LEBANON HOSPITAL.

THE twenty-seventh annual meeting of the Lebanon Hospital for Mental Diseases, Asfuriyeh, near Beyrout, Syria, was held at the rooms of the Medical Society of London on June 1st; the chairman of the General Committee, Mr. E. W. G. MASTERMAN, F.R.C.S., presided.

This hospital has been under the direction of Dr. H. Watson-Smith, O.B.E., for the last seventeen years. During the past year 135 patients (83 men and 52 women) were admitted. From the previous year there remained 95 patients, making a total of 230 patients under care and treatment throughout the year. Of this number 33 (16 men and 17 women) were discharged completely recovered and enjoying full mental health; 37 (25 men and 12 women) were discharged improved, although the nature of their malady rendered it possible that they might relapse in the future; 15 men and 3 women were discharged not improved. Primitive methods of treatment in the form of exorcism are still much in use in Syria. Spells are still believed in. Chaining naked patients in damp caves and beating them with shoes to trample out the demons are still practised, and patients are still received who have had crosses and other devices cauterized on their heads by red-hot irons. Bleeding is commonly resorted to as a means of treatment.

The CHAIRMAN said that the number of women patients with acute symptoms was increasing, and single-room accommodation for them was becoming pressing. Such cases were unlikely to decrease during the present troublous times in Syria. The payments by the French Government for necessitous cases had fallen in value with the fall of the franc. Mr. Masterman paid a tribute to the valuable work of the Executive Committee in Beyrout.

Mr. W. A. ALBRIGHT, J.P., one of the trustees of the hospital, in moving the adoption of the report, referred to the healthy open-air life lived by the patients and to the cheerful atmosphere. Far more facilities for curative open-air occupation would be opened out when the land could be irrigated and brought under cultivation. Mr. F. HOURANI spoke of the great service of the hospital to the Syrian nation, and hoped that in course of time Syrians would take the burden of the work upon their own shoulders. Dr. J. F. WHITWELL presented the report of the medical director, which included statistical tables showing the prevalent forms of mental disorder in the East.

Dr. FORTESCUE FOX referred to Asfuriyeh as a centre of treatment, of teaching, and of research. The resident fifth-year students to be supported by the Rockefeller Foundation would be of assistance to the director in his work as clinical professor of psychiatry in the American University of Beyrout. Mr. JOSEPH BUTLER, senior honorary treasurer, stated that over £4,000 a year was contributed in Syria itself on behalf of patients. Dr. PERCY SMITH mentioned that it was at Bethlem Hospital, London, that the General Committee first met. Dr. BEDFORD PIERCE moved a vote of thanks to auxiliary committees in America, Switzerland, and Holland.

Reports can be obtained from the general secretary, Miss Hilda Fox, at 67, High Street, Marylebone, W.1.

Union of South Africa.

[FROM OUR CORRESPONDENT IN JOHANNESBURG.]

PLAGUE RESEARCH.

IT was realized by 1924 that bubonic plague had spread very extensively amongst the wild rodents of the Union. The deaths reported from time to time, chiefly among native labourers on the veld, from what was proved by laboratory examination of the affected glands to be undoubted plague, began to cause public alarm, and towards the end of 1924 the Union Public Health Department made arrangements with the South African Institute for Medical Research in Johannesburg for establishing and carrying out a definite scheme of research into the whole problem. The Government and the Witwatersrand Native Labour Association have each contributed £2,500, to be devoted primarily to plague research in the Union; it is supplementary to their ordinary grants to the Institute for Medical Research. They have undertaken to continue an annual contribution of this amount for the next three years. Under this scheme a research bacteriologist and a research entomologist have been appointed; and a mobile field laboratory was organized with the institute at Johannesburg as a base. The research bacteriologist is Dr. Pirie, formerly Government bacteriologist at Nairobi in Kenya Colony, and since 1918 in charge of the routine division of the South African Institute for Medical Research. Dr. A. Ingram, previously director of the Medical Research Institute at Accra, Gold Coast, is the entomologist. These officers have been working on this scheme since the beginning of last year. Comprehensive and detailed reports of their investigations are now being prepared by the South African Institute, but meanwhile short interim reports have appeared. Their investigations establish beyond doubt the fact that the disease of veld rodents is indeed the disease which is called plague in human beings. As was pointed out in a previous letter, doubt has been expressed in certain lay quarters, and the Minister of Public Health was carefully questioned on this matter in the House of Parliament. It was feared at the time that the prominence given in the lay press to these expressions of doubt might seriously discourage the efforts by private individuals in rodent destruction. Authoritative statements were made to combat these questionings; but perhaps the most effective stimulus to renewed activity in rodent destruction was provided by some unexpected deaths from plague in the Calvinia district of the Cape. These cases occurred at a point over two hundred miles south of the area in which plague had previously been known to be enzoötic among veld rodents.

The animals which have during the past few years been reported as suffering a fairly high mortality from plague are: the common (lobengula) gerbille, multimammate mouse, long-eared mouse, Eastern Karroo rat, ground squirrel, spring hare, and yellow mongoose. All these animals have now been tested experimentally as to their susceptibility to plague. The workers express the opinion that all the veld rodents are more susceptible than the common black rat. The black rats do not belong to South Africa; all three varieties were originally imported by shipping, and they continue to be so imported; of the rats in South Africa they are much the most domesticated, and are usually the only ones found in and about human

This book as a whole gives a picture of a good man struggling with puzzling adversity. There is no clear evidence of enteric fever, and his mysterious enemy was, clearly, mosquito-borne fever, malarial or yellow, and he suffered from one or both himself. The troubles of the climate and the local hardships were so severe that the added worry of mosquitos goes absolutely unmentioned. His efforts to discover the cause of these fevers was hampered by his not knowing that malarial fever had an incubation period of a fortnight, though he did observe that men who arrived in ships to load timber up the river did not develop fever for three weeks; the delay he ascribed to the preventive effect of the vigorous physical exertions required of them. He was observant in treatment, for he materially reduced his blood-letting as soon as he took duty on shore, though still giving heroic doses of mercurials. It is surprising to see how little confidence there was in quinine, probably because the current doses were too small. Intoxication is stressed as the cause of fever, but it could rarely be excluded. In those terrible times there was no other recreation. Housing, clothing, food, papers, books, lighting, clubs, cleared space for games, were little considered or were wanting. Officers had a little society, writes Mr. Whitelaw, Surgeon R.N., in 1823, but adds, "How many has care driven to the bottle," even among them.

This book is a monument of zeal and industry, not only at Sierra Leone but at home, where Sir William Burnett and Sir James McGrigor, the Directors-General of the two services, had put at Mr. Boyle's disposal their official information, of which, as his readers will see, he made good use.

W. E. HOME,
Fleet Surgeon.

HEALTH ADMINISTRATION IN AUSTRALIA

A ROYAL Commission was appointed in January, 1925, to report upon legislative and administrative changes which it might be advisable for the Commonwealth of Australia to make in conjunction with its constituent States. Its report was presented at the end of November last, and has now been printed. It shows that the Commission took evidence over a wide field from many representative persons, inspected sanatoriums, quarantine stations, and other health institutions, and held eighty-eight public sittings in twenty-two places. The recommendations deal with the general question of ill health in the Commonwealth; the co-ordination of its official medical services, both civil and military; co-operation between State and Commonwealth health departments; the prevention of the spread of disease, including venereal disease; the purity of food and drugs; maternity hygiene; child welfare; industrial hygiene; research work; and the relation of public health authorities to medical practitioners in regard to disease prevention, to voluntary agencies for the promotion of health, and to propaganda.

To investigate and determine the best methods for common action by the Commonwealth and the States in so many departments of activity was in itself a complex undertaking, which was not made simpler by the various geographical and administrative conditions in the great island continent which has a tropical climate in the north, where Cape York is within 11 degrees of the equator, and a temperate climate in the south. For administrative purposes it includes New Guinea and Norfolk Island. Its total area is close on 3,000,000 square miles. It is composed in the main of six States, ranging in area from Tasmania, with 26,215 square miles, to Western Australia, with 975,920. Each State has its own public health laws. In three States public health administration is under a board; in the remaining three there is a permanent official head. Local government has been developed and is operative in most places, though portions of Western Australia and New South Wales are still unorganized. The local authorities, such as the municipal or district councils, are the health authorities, though with varying powers in different areas. Some, for example, are water authorities; in other instances these duties are delegated to water boards; and in still other cases the public works department both provides and manages the water supply. The Commissioners have rightly assumed on the part of their readers a knowledge of Australian affairs, and, omitting discursive writing, have limited themselves to those portions of the existing health legislation and administrative procedure which appeared to call for amendment. Their recommendations in general seem both fair and practicable, and they have clearly attempted to adapt their remedies to varying circumstances and conditions. In some cases direct control by the Commonwealth is advocated; in others co-ordination is suggested; and in others, again, where the administrative bond might perhaps prove irksome, co-operation is thought sufficient. It is recommended, for example, that the health of New Guinea should be under the direct control of the Commonwealth Health Department. Its coast is only some ten days' sail from Asiatic ports, from which small-pox might readily reach it, and endemic small-pox in New Guinea would threaten the whole Commonwealth of Australia.

In dealing with the medical services of the fighting forces the Commissioners are content with co-ordination. They advocate one director-general over all, but separate directors for the medical services of the navy, army, and air force, each with power to act independently when emergency arises. In civil administration the Commission would leave to the individual States their present autonomy in questions of health, but advises that the Commonwealth should lay down general principles for their guidance, and should employ the time-honoured reward of the grant-in-aid for those States which effectively conform. A State Council on health, with laboratory and other equipment, is recommended for each State. It should control all health activities within the State, including maternity and child welfare. There should also be, in the view of the Commission, a Federal Health Council for securing closer co-operation between the Commonwealth and State health authorities. On the State councils there should be representatives of the medical profession, and on the federal council, if the Government at any time thinks it would be an advantage, representatives nominated by the Federal Committee of the British Medical Association in Australia.

A feature of the report which is quite distinctive is the recognition by the Commissioners of the principle that a competent general practitioner service is essential to the efficiency of any system of health government. "Medical practitioners," they observe, "are among the first to come into relation with those who are affected with illness. They thus have the first and best opportunity of taking or advising steps for prevention." These observations of the Commission hold true even where the general practitioner is not a part of the health machine, for good medical practice is good preventive work, whether recognized by authority or not; if the doctor does not form a link in the health administration of his area many important services which he alone can render are obviously lost to the community.

The Commission notes that in February, 1925, the Federal Committee of the British Medical Association in Australia, to which reference has just been made, expressed the view that in no State of Australia "is the service of the practising practitioner officially utilized for the prevention of disease to any degree consistent with his knowledge and opportunity," and that "any scheme to rectify existing conditions must have as its immediate ideal the linking up of the general practitioner into active participation in the administrative scheme." The Federal Committee had further put forward an outline of the work the medical practitioner as a public servant should do, including sundry notifications, the ordering of disinfection, the control of contacts and carriers, and the medical inspection of school children. These suggestions the Commissioners adopt, and themselves recommend a model health scheme prescribing definite duties for practitioners. Pending the introduction of formal schemes they say that much could be done to bring doctors into the work by mutual agreement. There is a shortage in Australia generally of highly trained experts in public health. The Commission advises that steps should be taken to increase

such proportions that at the beginning of the present year the whole building was handed over to the University of the Witwatersrand on a ninety-nine years' free lease, to be used entirely for dental work.

Apart from its great value to the University as a training school for dental students this University clinic, as it is now called, provides a very necessary service to a community which includes a very large number of "poor whites," natives, Eurafricans, and Malays, who are very liable to dental disease and who were previously almost entirely debarred from receiving treatment. An idea of its activities may be formed from its monthly returns. Thus during May there were 185 new patients, 355 old patients, 936 extractions, 10 fillings, 37 full dentures, 8 partial dentures, and 4 repairs. The clinic, as its name indicates, is now entirely controlled by the University, through a Dental Board which consists of the Principal of the University, the Dean of the Faculty of Medicine, two other members elected by the Faculty, and five members elected by the dental staff of the University. The Dental School is administered by the Faculty of Medicine of the University, dentistry being regarded as one of the special subjects rather than as a course entirely distinct from medicine. A five years' course leads to the B.D.S. degree, but the students are encouraged to take rather the combined medical and dental course of seven years leading to degrees in both medicine and dentistry. There are seven departments in the Dental School—namely, (1) conservation, (2) dental surgery and pathology, (3) prosthetics, (4) orthodontia, (5) dental diseases of children, (6) dental radiology, (7) dental anaesthetics.

The Medical School of the University of the Witwatersrand.

At the June examinations the following candidates were successful in all the subjects of the final professional examination for the degrees of M.B., Ch.B.: M. Chaitowitz, L. I. Cohen, H. Danchin, J. P. Grieve, A. L. Harington, H. Levy, J. Mazell, L. M. Rodger, H. Simon, J. Tasker, S. Verster, A. P. Vorster. With two exceptions all these medical graduands have been elected to house appointments in the Johannesburg General Hospital or its branches—maternity, children's, urological, or fever. This means that virtually the whole of the Johannesburg General Hospital and its various branches will have for its resident staff medical graduates of this University. The bursary which was founded in commemoration of the work of the late Anne Fenton Cleaver, sometime medical inspector of schools and director of the school clinic at Johannesburg, and which is given annually to the best woman student of the year in the subject of diseases of children, has been awarded to Miss Rachel Getz.

England and Wales.

Royal National Hospital for Consumption.

The Prince of Wales opened the new nurses' home at the Royal National Hospital for Consumption at Ventnor on July 22nd. The home, erected in memory of the late Mr. Thomas Lampard Green, is three stories high, and is connected with the hospital grounds by a subway. The ground floor includes sitting rooms and bedrooms for the matron and home sisters, writing, recreation, and dining rooms, and the kitchens. On the first floor are bed-sitting rooms for six sisters, and bedrooms for ten nurses. The second floor contains more bedrooms for nurses and maids, and a luggage lift is provided for each floor. The building is warmed by hot-water radiators, and there is a constant supply of hot water on all floors. Ground has been levelled to provide a tennis court, and on the south front of the building there is a long terrace overlooking the sea. The chairman of the board of management, Mr. P. B. Burgoyne, welcoming the Prince, stated that the hospital, which was founded in 1867, comprised now eleven blocks of buildings, with accommodation for 164 patients. During the last year 631 patients had received treatment, of whom 50 per cent. came from London and its neighbourhood. The Prince, who is patron of the hospital, congratulated the board on the fact that in building the home no debt had been incurred. It is proposed to raise an endowment fund for the expenses of its upkeep.

Metropolitan Hospital Sunday Fund.

At a meeting of the council of the Metropolitan Hospital Sunday Fund, on July 29th, under the presidency of the Lord Mayor, Sir George Makins, the chairman of the committee of distribution, stated that the collection was £4,600 below that of last year, and it was feared that when the final figures up to October 31st were obtained there would be manifest a decrease in church collections and donations. Members of the Church of Scotland, however, had contributed £959, as compared with £908 last year and £809 the year previously. The report showed that the total of the Fund on August 9th next would amount to £80,470. During the year 226 institutions had applied for grants, being one less than in 1925, and the committee had recommended a distribution of £80,005 to the various hospitals selected. Of the total sum available for distribution 7½ per cent. was appropriated for the purchase of surgical appliances during the ensuing year, and 2½ per cent. for district nursing associations. The principal awards to hospitals were as follows:

London Hospital, £7,100; St. George's £3,320; Hampstead and North-West London, £3,250; Middlesex (and Convalescent Home), £3,000; St. Thomas's £3,000; Royal Northern, £3,000; King's College, £2,150; Royal Free, £2,500; St. Mary's, £2,150; University College, £2,610; West London, £1,800; Westminster, £1,600; Seamen's, £1,300; Queen's for Children, £1,800; Hospital for Sick Children, Great Ormond Street, £1,500; Metropolitan, £1,320; Charing Cross, £1,625; Prince of Wales's, Tottenham, £1,500; Queen Mary's, West Ham, £1,200; City of London Chest Hospital, £1,140; Brompton Hospital, £1,100; East London, £1,100; Victoria Hospital for Children, £1,050; Royal National Orthopaedic, £1,100.

Dust and Smoke Nuisance in London.

The London County Council proposes to promote legislation next session to enable it to make by-laws dealing with the nuisance arising from dust during the demolition of buildings. Some part of London is always in the hands of the housebreaker, and the dust and particles of lime which arise when the walls and ceilings are brought down and the debris is carted away can be very distressing. As long ago as 1900 a conference called by the London County Council passed a resolution calling upon owners or contractors when demolishing buildings to prevent annoyance as far as possible by sprinkling water and erecting reed or straw screens. The Home Secretary of that time expressed doubt as to the efficacy of a proposed by-law, and the matter was not proceeded with. But in the City of London the corporation has for some years past had a by-law requiring the placing of screens or mats around the property and the use of water, and this is said to have been effective. The London County Council has also agreed to make an annual contribution of £100 for three years towards the cost of certain investigations by a committee of the Department of Scientific and Industrial Research into atmospheric pollution and the cause of fogs. The work hitherto undertaken by the council in this matter has been limited to the maintaining of soot gauges in the parks and open spaces and analysis of the samples collected. The Department of Scientific and Industrial Research has offered to accept responsibility for the organization of an inquiry, with the co-operation of the local authorities, and under certain conditions to make contributions equal to those made by the authorities. Birmingham has resolved to make an annual contribution of £50 on condition that six other large cities make the same contribution. The City of London has given £50, and other local authorities have given smaller sums.

Derbyshire Hospital for Sick Children.

By the provision of eleven additional beds at the Derbyshire Hospital for Sick Children the accommodation for patients has been increased to fifty-two, which, besides relieving the strain on the hospital, will allow the nurses in training there to become eligible for certificates. The isolation block presented by the late Sir Herbert Raphael

habitations. Even these rats sometimes become "wild"; thus in Natal it has been observed that they have taken to the bush near Durban, where they live in hollow trees. The domestic rat being the least susceptible of our rats, all our rodents must be regarded as potential agents in the spread and propagation of plague. But the only animals of practical importance appear to be, on the high veld, the gerbille, multimammate mouse, and ground squirrel; and on the lower, more bushy country, the striped mouse. The Karroo rat, though very abundant and experimentally apparently the most susceptible of all animals yet examined, is not an important agent in the spread of the disease. It appears to escape almost entirely when an epizoötic has been raging amongst gerbilles living in close contiguity; this is attributed to the fact that its flea parasites are peculiar to itself—it has none in common with the gerbilles. Spring hares, which have been known to travel as much as twenty miles in a night, and might, therefore, be expected to be capable of causing a rapid spread of the disease, are also excluded as the result of experience. They, too, have their own private set of flea parasites.

Two carnivores, the suricat and the yellow mongoose, have been studied. They live in close relationship with some of the rodents, and have in the past been reported as dying in considerable numbers in the wake of a plague epizoötic amongst rodents. Small rodents form part of their normal dietary, and large numbers are probably eaten when they are sick or dying and can easily be caught; at such times the dung of these animals is thick with rodent fur. Experimentally the suricat is easily infected with plague, whereas it has been found impossible to infect or kill a mongoose, even when extreme doses have been employed. One captive mongoose ate four whole carcasses of gerbilles dead of plague, yet did not subsequently show the slightest sign of illness. It is proposed to exploit this insusceptibility of the mongoose to plague in rodent destruction, and to this end Dr. Pirie recommends that it be protected.

Bacteriological investigations have been carried on in many directions. An interesting question is whether there are within the species *B. pestis* serologically distinct groups. Nine South African strains, two from rodents and seven from human beings, were closely studied, and compared with eleven human and two rat strains from Bombay, and five human strains from Ceylon, a Japanese ship which arrived at the Cape with plague patients on board, Manchuria, and Nairobi respectively. Microscopically and culturally all these strains had the characters of *B. pestis*. All the South African strains give the characteristic pathological picture of plague in animals that have been infected with them, and some of these strains are as virulent as any of the foreign strains. All the strains tested with antiplague serum were agglutinated, but to greatly varying degrees. In attempting to differentiate types among the various strains by the method of agglutinin absorption difficulties were met with, both in getting emulsions of *B. pestis* that were not auto-agglutinable, and in obtaining agglutinable serums of high titre. It is, however, hoped to overcome these difficulties.

Reference was made in my last letter (June 5th, p. 962) to the new disease of veld rodents, the so-called "Tiger River" disease. Experiments in the utilization of this virus (which appears to be harmless to man) in the campaign against veld rodents are being made on a large scale; there is considerable promise of success. The disease can be spread both by laying down infected food and by letting loose infected animals.

At the Cape Municipal Congress held at Kimberley recently Dr. J. A. Mitchell, Secretary for Public Health, addressed the delegates. Referring to plague, he drew attention to the Calvinia outbreak. Infection was known to exist in the Midlands and other parts of the Cape, but there was now danger through De Aar to the Calvinia area. The plague area was also within striking distance of the Far East Rand, and if plague became prevalent it would be impossible to prevent it spreading right along the Reef. The problem from the towns and urban areas point of view was to starve out rats. A campaign lasting only one or two months simply left matters as they were. He was glad to say that in the greater part of the Union a continuous campaign was being maintained. In his annual report for the year ending June 30th, 1925, Dr. Mitchell gave the following plague figures for the Union: There were 56 outbreaks of the disease; the white cases numbered 22, with 8 deaths; native cases 90, with 60 deaths. The total number of cases was 112, and of deaths 68.

Investigation of South African Remedies.

An investigation of considerable magnitude, and one which is of very great interest to South Africa, is at present being carried on in the department of pharmacology of the University of the Witwatersrand by Professor J. M. Watt, head of the department, and his assistant, Miss Marie G. Brandwijk. These two investigators are making a complete survey of the present position with regard to "huismiddels" (Dutch household remedies) and native medicines. Very many of these remedies are still apparently in constant use among Europeans. Many plants and parts of animals are in demand among natives, and form the main stock-in-trade of the reputable herbalist as opposed to the filthy witch-doctor. In the past scientific investigation of these popular remedies, European and native, has been of a desultory and haphazard nature. Isolated references to them are of fairly frequent occurrence in the scientific and medical literature of the country, but these are so scattered as to be practically inaccessible to investigators. Often the plant whose virtues are described is too inadequately indicated to make botanical identification possible. Some of these remedies are being brought actively to the notice of the public by being commercially exploited, too often without any real foundation for the claims made. Such a state of affairs is manifestly unsatisfactory, and a very real service will be rendered by the present investigators if they are able to place on record the present state of our knowledge of these remedies in a form which will be easily available for reference. It is also hoped that such a record will form a basis for further investigation of those substances which appear likely to be of value in medicine. The research is receiving the active support of Government departments, particularly the Department of Native Affairs, the Division of Botany, and the Forest Department. The Department of Bantu Studies of the University is also interesting itself in the matter.

University Dental Clinic.

The following have been appointed senior honorary visiting surgeons to the dental clinic of the University of the Witwatersrand: A. H. Ackerman, D.D.S.Michigan, M. L. Arenson, D.M.D.Harvard, J. H. Breyer, Tandarts (Holland), B. J. Eccles, L.D.S., M.R.C.S.Eng., G. A. Forsyth, D.D.S.Pennsylvania. These appointments increase the staff of the clinic to twenty. This dental clinic was started some years ago as a charitable organization to meet the great dental needs of the poor in this town by the Johannesburg Dental Society. It was housed from the beginning in the building which had been erected by the Joint Council of the South African Red Cross Society and the Order of St. John for treating diseases of the chest. The sum of £40,000 had been given at the end of the war by the Joint Council of the British Red Cross Society and the Order of St. John to Lord Buxton, then Governor-General of the Union, who handed it over to the Joint Council of the two bodies which was formed in South Africa. Of this sum the Joint Council of the two bodies in the Transvaal was given £10,000 with which to erect a building to house a clinic for diseases of the chest. This building was formally opened in 1922. The requirements of Johannesburg in the way of tuberculosis treatment proved to be entirely insufficient to justify so large and elaborate a building, and the "tuberculosis clinic" became in 1924 a "polyclinic" housing, in addition to the clinic for diseases of the chest, the out-patient clinic of the Transvaal Memorial Hospital for Children, and the clinic of the Johannesburg Dental Society. It very soon became apparent that the dental portion of this polyclinic was proving much the most important, and it has grown to

said that the number of houses erected in connexion with slum clearances was 814, and their provision had enabled the Corporation to proceed with slum clearances in the Cowgate, Grassmarket, and other areas; good progress was being made, although the problem was still acute. It was estimated that the present scheme of slum clearance would be completed in about twelve months and then other areas like St. Giles and the Canongate would be treated, so that the housing question must not be considered as by any means settled. It was an undoubted fact that the health of boys and girls removed from slum areas had greatly improved since they had been taken to Lochend, where they had fresh air and sunlight.

Pneumonia and Tuberculosis in Farm Labourers.

Dr. Rae, chief medical officer of health for the county and burghs of Aberdeen, in his annual report described the farm servants in the county as an improvident class in health matters. In other classes cases of pneumonia were notified within two or three days, but the farm servant would toil on until the fourth or fifth day, and then, very often, collapse. Consequently the mortality from pneumonia amongst them was larger than in other classes of the community. Similarly with tuberculosis. From want of education or want of thought the farm hand failed to call in the doctor in time. Dr. Rae gave this explanation in reply to a member of his committee, who attributed the large incidence of tuberculosis amongst farm servants to their carelessness in not changing their clothing after it had been soaked with rain. Another member of the committee asked whether bad housing was the cause of the excess of tuberculosis; but Dr. Rae, while admitting that housing might be improved in some cases, said that he had not found the farm servants in Aberdeenshire worse off than those in other counties in Scotland.

Dental Education.

The prizes for the session 1925-26 of the Incorporated Edinburgh Dental Hospital and School were presented by Mr. J. W. Dowden, F.R.C.S. In the report on the work of the school the Dean, Mr. William Guy, F.R.C.S., said that the dentist's field of study was wider in extent even than that of the doctor, while in addition he had to acquire laboriously a great degree of mechanical dexterity. He found a somewhat grim satisfaction in the reflection that in their school the students must either work hard or go under, and there was no place for slackers. During the past year the school had been a little hampered by the building of the extension, but the work submitted for the work-room competitions had given proof of attainment by some pupils of a remarkable standard of craftsmanship. Competition had been keen in general and special classes, and medals had been hard to win. He had been glad also to observe that in the cult of athletic and other sports the school had many enthusiastic and some successful devotees. Mr. Dowden, in a short address, mentioned that it seemed a curious fact that at the present day so large a number of people lacked their own teeth. Whether that was due to hustle or varied diet he could not say. Many diseases were now claimed by physicians as being caused through the teeth, and he would call attention to the importance, not only of fact in dental work, but of imagination, for when dealing with human patients imagination must be given some sort of play. In addition the dentist's knowledge should be carefully systematized.

Royal (Dick) Veterinary College.

At the annual distribution of prizes at the Royal (Dick) Veterinary College, Edinburgh, Sir Thomas Hudson Beare, chairman of the board of management, said that the extension of post-graduate work was one of its chief aims. There was a great field for post-graduate work in veterinary science, and it benefited the men working for an ordinary diploma that they should be studying side by side with men engaged in original research and post-graduate work. One particular line of work which had been taken up by the instruction of the Board of Agriculture was the diagnosis of poultry disease, which was a matter of great practical value. He pleaded for further help in the way of endowments, for the College was playing no small part in regard to what he held to be the chief industry of the country—agriculture. It was in particular urgent to develop the department of parasitology under a teacher of eminence who would give his whole energies to the work of research. The Earl of Stair, after presenting the prizes, remarked that veterinary science still needed to acquire much more knowledge, as the experience of the last year or two proved. Although the result of efforts against foot-and-mouth disease was not exactly a defeat, nothing less than a repulse had been encountered.

Correspondence.

POST-GRADUATE HOSTEL, LONDON.

Sir,—There can be no doubt that a foregathering of medical post-graduates in London from a social point of view is just that link which has been wanting in most of the post-graduate efforts in the past. This defect has now been remedied, and the opening of the Post-Graduate Hostel at the Imperial Hotel, Russell Square, London, is most opportune, for many post-graduates will be sojourning in the metropolis during the summer and autumn months. The first informal talk and discussion on operations on the stomach was certainly a success, and those to follow should be well patronized.

I feel sure that the opportunity afforded, in the excellent room placed at the disposal of post-graduates by the management of the Imperial Hotel, of discussing topics taken in the post-graduate courses held in London by the post-graduates making this hotel their headquarters, cannot but bear most valuable fruit.

It would be a pity if a single post-graduate was to stay anywhere in London apart from his or her confreres who will be residing in the Hostel and making use of its facilities.—I am, etc.,

London, W.1, July 31st. W. McAdam Eccles.

"ATOPHAN DERIVATIVES IN RHEUMATISM."

Sir,—Dr. W. Langdon Brown, in his letter in your issue of July 3rd (p. 37), has done good service to the medical profession and to the public by calling attention to the possibility of the occurrence of toxic jaundice after the administration of atophan, atophanyl, and atoquinol. His experience has been confirmed by that of Dr. Geoffrey Evans and Dr. C. Worster-Drought in the communications in your issue of July 10th, and by that of Dr. Lewis G. Glover in his letter in the Journal of July 17th.

I have no doubt as to the capacity of these preparations to produce in certain cases toxic jaundice. I have seen in consultation three cases of toxic jaundice following the administration of atophan in ordinary doses by the mouth, and I have no doubt that the jaundice was the direct result of the toxic action of atophan on the liver. One of these cases was fatal. The patient, a man of 69, in feeble health and suffering from chronic gout, was given atophan gr. v t.d.s. by mouth for one week, bicarbonate of soda 1/2 dr. in a tumblerful of water being taken night and morning. Deep jaundice developed a few days after the completion of this course, and death resulted twenty-eight days after the onset of the jaundice. The final symptoms were those of icterus gravis. Throughout most of the icteric period the stools contained bile pigment showing that the jaundice was not obstructive.

The toxic action on the liver of the preparations under consideration is probably due to the presence of the quinoline nucleus in each. Atoquinol can hardly be regarded as a derivative of atophan, but both are derivatives of quinoline. Atophanyl is a combination of the sodium salts of atophan and salicylic acid.

The inorganic compounds of arsenic rarely give rise to jaundice nor does sodium cacodylate, which is an organic compound of the fatty or aliphatic series. It is well known that jaundice occurs after the administration of the arsenobenzol compounds of arsenic, and the occurrence of jaundice is no doubt due to the combination of the arsenic with a

in 1906 has now been transformed into a single commodious ward, which was opened by Captain Drury-Lowe on July 8th. Sir Herbert Raphael had presented the block during his year of office as president of the institution, with a view to its serving as an isolation department for the hospital. For a considerable time it fulfilled that purpose, but eventually treatment became available for such patients at the Borough Infectious Diseases Hospital. In addition to the eleven beds provided by the conversion of the block, some measure of accommodation for the extra nurses has also been obtained, and Mr. Alan Reid, chairman of the board of management of the hospital, announced that the cost of the alterations would be met out of revenue, and that no special appeal to the public in this connexion would be required. Captain Drury-Lowe, in opening the ward, said that the hospital was the only one of its kind in the county. Mr. F. H. Frere, chairman of the House Committee, stated that the hospital had been overcrowded for a considerable time; additional land had now been acquired, and it was hoped that building operations would be begun before long; the conversion of the isolation block would greatly ease matters in the meantime. The new ward is provided with a terrace for open-air treatment.

Scotland.

Health of Glasgow.

The report of the medical officer of health for Glasgow for 1925 has been issued by Dr. A. S. M. Macgregor, although it is pointed out that his predecessor, Dr. A. K. Chalmers, was still in office as medical officer of health during the first half of that year. The death rate of 13.97 per 1,000, it is pointed out, compared favourably with that of 15.39 for the preceding year, although it is not so low as in 1923 (13.66), which was the lowest recorded for the city. The births during 1925 numbered 25,416, compared with 25,330 in 1924. This was the first year in which an increase had occurred since the high post-war birth rate of 1920. High rates were recorded in the industrial and working-class wards, and low rates in the residential quarters, varying from 34 per 1,000 persons in Mile End Ward down to 7.8 in Kelvinside and 9.9 in Cathcart.

Causes of Death.—The highest death rate was experienced in Mile End Ward (17.7), while that for Cathcart and Pollokshaws Wards was 9.5. The death rate from infectious diseases during 1925 was 1.24 per 1,000, which was the lowest recorded since 1921 and compared favourably with 1.71 in 1924. Malignant disease had been increasing over a considerable number of years, and during 1925 the number of deaths was 100 higher than in 1924. The deaths of children under 1 year of age numbered 2,591, compared with 3,005 in 1924, and the infant mortality rate was 102 per 1,000, compared with 119 in 1924 and 89 in 1923.

Infectious Diseases.—During 1925 the number of cases of puerperal fever notified was 300, compared with 239 during 1924. As in 1924 and 1923, no cases of typhus fever occurred, and the diminution in the number of cases of enteric fever continued. The number of new cases of pulmonary tuberculosis (1,600) was the lowest on record. The number of cases of scarlet fever was the highest since 1915. Encephalitis lethargica was contracted by 45 persons, of whom 26 died; the number of patients of all ages disabled as a result of the condition and its sequelae constituted a new administrative problem with important medical and social bearings, because many would require permanent institutional treatment. The number of persons in Glasgow showing definite disability as the result of this disease is estimated at about 200.

Venereal Diseases.—The number of new cases of venereal diseases was 5,187, which was a decline on the numbers of the previous years, although the total attendances increased, with an average of 25.6 for each patient. In 523 instances the disease was a reinfection. With regard to ophthalmia neonatorum, the case rate is at present less than 3 per 1,000 births. In 1921, when the rate was 6, the instillation of silver nitrate into the eyes of the newly born became compulsory on all midwives, and the opinion is expressed that this has contributed to this favourable result.

Housing.—In the report of the previous year it had been estimated that in order to replace houses which ought to be demolished and to allow for deterioration of existing houses, as well as to provide for the natural increase of the population, some 5,000 houses annually would be required during the next twenty years. It appears from the present report that not more than one-third of this number is actually being provided. The Public Health Department had found on inquiry that a tendency is growing up among the occupants of new houses to take in lodgers or to sublet a room to other families. This, in some cases, produced overcrowding. It is suggested that, as the aim of rehousing schemes is the ensuring of healthy occupancy, the tenants should be subject to rules governing this. The clearance of back-lands is being gradually accomplished; down to 1919 143 had been demolished, but 501 still remained. By last year the number had been reduced to 450, and of these 50 are included in a clearance scheme. Some inquiry had been made into the view which has been held in regard to the slum dweller and his tendency to make a slum wherever he went into new houses. At Hamiltonhill a detailed survey was made of 347 houses provided for tenants dispossessed through slum clearance in the Cowcaddens area. Of the new houses 31 (9 per cent.) were found to be unsatisfactorily kept, being dirty and bug-ridden. On the other hand, 151 houses were clean and well kept, many of them models of cleanliness, while the remaining 165 were passably good. It is suggested that a probationary period might be arranged for tenants of this class before they are entrusted with new houses.

Smoke Abatement.—It is noted that some progress has been made in this direction along the lines of (1) extended use of electricity for power purposes; (2) the use of mechanical stokers and steam boilers; (3) the substitution of smokeless fuel in furnaces where mechanical heating is not suitable, and (4) the substitution of smokeless fuel for raw coal in household fires and boilers for central heating. The first practicable step to produce a smokeless fuel suitable for domestic purposes was taken by the corporation in 1925. The fuel, called "kincole," is found to produce more radiant heat than an equal weight of raw coal.

Edinburgh Housing Scheme.

Edinburgh Corporation has made considerable progress in building houses on the new area in the Lochend district, in accordance with a scheme elaborated after the passing of the Housing Act of 1919. On July 26th the main thoroughfare, which is to be known as Sleigh Drive, was formally declared open by Lord Provost Sir William Sleigh, who planted a number of maple trees along its border. The scheme comprises 42 acres of ground and two miles of streets. In this area 32 demonstration blocks and 802 houses have been erected. Of the latter, 150 are of the two-roomed type suitable for persons of small means. A number of similar houses together with shops are still to be erected. At a luncheon in the City Chambers the Lord Provost cordially congratulated the Housing and Town Planning Committee on what it had achieved. With regard to the housing problem Edinburgh was now beginning to see daylight. The houses erected by the Corporation under the Housing Acts now numbered 4,560, exclusive of the steel houses which were being provided under Government auspices and also exclusive of the large number of houses which had been erected by private enterprise with the help of the subsidy. The total capital expenditure on housing was over £2,000,000. When the Corporation purchased the Lochend estate three years ago, one of the criticisms from the financial point of view had been that a large part of the estate would lie idle for a long time before it could be developed. Within this short period, however, what was practically a new town had sprung up at Lochend and all the land allocated for housing had been taken up. Consequently yet another estate had been bought at Saughtonhall for similar development. Great appreciation had been expressed by some of the tenants who had been removed from slums to these new quarters. Councillor P. H. Allan

is "*no evidence that large doses immunize against (existing) tuberculosis*" are giving a mere opinion, which is contrary to the evidence. I would suggest that on this supreme question affecting millions the Government might appoint a lawyer to determine whether my critics or I deserve the verdict.

It is not necessary for me to criticize again the conclusions reached by this committee, but I will gladly send my pamphlet *The Tuberculin Dispensary for the Poor* to any who wish to read my criticism of this report, and would like to have in return their calm opinion upon the justice of my comments. *C'est la juste mesure, qui vaut le mieux.* I might thus obtain from the medical profession a collective idea of the value of the report, which had received the imprimatur of the Medical Research Council. Further, I invite medical men to visit the Tuberculin Dispensary, 32, Fitzroy Street, Fitzroy Square, W.1, on Mondays and Thursdays, at 9 a.m., and learn by experience what we strive to do and thereby judge for themselves.—I am, etc.,

London, W., July 23rd. W. CAMAC WILKINSON.

SEPTIC SORE THROAT COMPLICATED BY ERYTHEMA NODOSUM.

SIR,—The recent letter on septic sore throat complicated by erythema nodosum (June 19th, p. 1062) leads me to report the following case of ulcerative tonsillitis in a woman aged 20. The tonsillitis was accompanied by much swelling and considerable exudation. After about ten days extensive erythema nodosum developed on both legs, and also just behind the elbow-joints, especially the right, with swelling of the joints. After about another ten days the whole of the erythema disappeared, but was followed by a condition of chronic rheumatism with swelling of the joints, accompanied by tenderness and sometimes redness and intense pain; sometimes one or two joints at a time were affected and sometimes several. This has been accompanied by albuminuria. The temperature was above normal only at the onset of the erythema nodosum, when it was 100° for a day or so; there have been relapses of the joint—pains and swellings. The usual treatment, local and general, for these conditions has been given, and also a restricted diet; and it was only after using a particular drug not generally applied in these cases, but which would do good in cases affected by the meningococcus, that the progress towards a satisfactory recovery was made. The drug used was potassium bromide, given at bedtime every night. She is now taking tonics.—I am, etc.,

D. OWEN WILLIAMS, M.B.

Glandyfi, Cardiganshire, June 26th.

ANTIGENS FOR THERAPEUTIC IMMUNIZATION.

SIR,—Your leading article on this subject (JOURNAL, July 31st, p. 209), referring to the paper by Sir Thomas Horder and Dr. Ferry, p. 177), describes a method employed by these authors for preparing vaccines as "novel."

With reference to living bacterial vaccines may I point out that in the domain of veterinary medicine the demand for Pasteur's living vaccines (chiefly anthrax and swine erysipelas) goes on steadily increasing year by year, and that the output of the Laboratoire des Vaccins Pasteur (pour l'Étranger), Paris, is now over twenty million doses a year, a proof that the economic value of these living vaccines is recognized by stock owners all the world over as the most valuable yet cheapest form of insurance against epidemics of these two dreaded diseases. Living vaccines for prevention of tuberculous disease both in man and cattle have an increasing band of votaries in more than fourteen countries where State laboratories are now issuing the living Calmette-Guérin bacillus (a non-pathogenetic form of the tubercle bacillus of bovine type) for premunization of man and cattle, particularly the newborn, against tuberculosis.

The method described by Horder and Ferry for preparing vaccines, however novel it may appear as applied to human medicine, is well known in veterinary medicine, and in this connexion I would refer especially to the pamphlet issued by the Toulouse Institute of Serumtherapy on immunization against symptomatic anthrax by amicrobic and integral vaccines (Types B and C). Under Type B, which consists of broth cultures deprived of germs, the following note appears:

"Since 1900 Leclainche and Vallée have shown that candle-filtration lessens the activity of the secretions of *B. chauvoei*. Also no two candle-filters ever behave alike; they retain by adsorption and slime-choking the greatest proportion of the soluble active substances which they are intended to free. . . . In pace of filtration, as is utilized by all authors who study antisymptomatic anthrax vaccination with microbic secretions, Leclainche and Vallée therefore employ super-centrifugation of cultures. . . . This technique alone yields totally innocuous amicrobic vaccines with a maximum of activity and antigenic value, incomparably superior to those obtained by filtration, however good the latter may be." (The translation is mine.)

There is no reason for supposing that powerful inoffensive antigens may not likewise be found associated with pathogenic organisms in the domain of human medicine, and therefore both Sir Thomas Horder and Dr. Ferry have all encouragement in their interesting, valuable, and patient research.—I am, etc.,

Hendon, N.W.4, Aug. 1st. MYER COPLANS.

ACUTE INTESTINAL OBSTRUCTION.

SIR,—My experience indicates that the tragic rapidity with which acute intestinal obstruction passes the bounds of surgical salvation demands, even at risk of an occasional error, a concise and easily remembered working formula.

(1) In the first instance, after due local (including rectal and vaginal) revision, in every suspect case, examine heart, lungs, and urine, not omitting a good look at eyes and ears, and a sniff of the breath. Should the diagnosis remain dubious, stand by the case—no "going away and coming back later."

(2) Administer a large soap-water and turpentine enema; if this does not cause an immediate, and distinct, evacuation of faeces or flatus, then and there wash out the stomach, and forthwith transfer the patient to the operating theatre, in which a well heated operating table can be promptly procured. The cold slab is the death-bed of the patient with acute abdominal disease, and every minute before, and during, operation counts.—I am, etc.,

Buenos Aires, May 6th. JOHN O'CONOR.

HISTORICAL ACCURACY.

SIR,—At the recent Representative Meeting of the British Medical Association, when the question of having a Section of the History of Medicine at the Annual Meeting was under discussion, the statement was advanced as an encouragement for the venture that the last Section, that of Medical Sociology, was also brought forward on the initiative of Brighton, and had been most successful. Had this remark not been quoted in your report it would have been unnecessary to refer to it; but if we are to have history, let us begin by being accurate.

When the question of having a Medico-Sociological Section was first mooted the Brighton Division had not become known. This Division's appearance on the stage—at about the time of the commencement of the temporary eclipse of Wandsworth—was first noticeable when, during an early summer morning walk on the Downs in 1912, the late Medical Secretary and I decided that the local professional pulse should be felt with a view to the Annual Meeting being held in Brighton in 1913.

The question of a Sociological Section was first advocated at a Council meeting in 1908; was referred to a committee which trampled on it as being considered to be foreign to the objects of the Association; was brought up again later; was acquiesced in as an experiment; and held for the first time in London in 1910, Belfast being considered to have a too political atmosphere to start it in 1909! That it has proved each year since an undoubted success goes to show that prophecy in 1908 was for once correct.

By all means let us have a Section of the History of Medicine. Not for the purpose of recounting to an expectant public tales of heroic bloodcurdling forms of treatment culled from records of past civilizations, but to

benzene nucleus. The quinoline nucleus resembles that of benzene in that its presence may be associated with toxic action on the liver.

The occurrence of toxic jaundice after the administration of preparations which may act as liver poisons is dependent on the condition of the liver cells at the time of treatment. If there is any evidence of defect of hepatic function it is advisable to avoid the administration of any remedies which may have a specific toxic action on the liver cells. It has been recommended to give glucose (50 grams) by mouth a few hours before the intravenous administration of an arseno-benzol derivative to act as a protection of the liver cells by reason of the stored glycogen resulting. I believe this recommendation to be physiologically sound and one that should be practised.

It is probable that the occurrence of toxic jaundice after the administration of atophan, and the other preparations in question, only happens in cases where there is defective hepatic function. The letter of Dr. L. C. Dundas Irvine in the Journal of July 17th shows that in many cases the preparations may be safely given, and this is no doubt the experience of many other practitioners. It should, however, be remembered that there is a possibility of toxic action on the liver, and in patients showing evidence of defective hepatic function or of general debility the preparations would be best avoided.—I am, etc.,

London, W.1, Aug. 3rd. W. H. Willcox.

THE DEVELOPMENT OF VAGINAL OPERATIONS FOR GENITAL PROLAPSE.

Sir,—In the interesting discussion on this subject in your columns I observe the statement of Dr. R. H. Paramore (March 13th, 1926, p. 502) that, so far as he knows, no one has cured a case of complete prolapse of the uterus by operating on the "visceral connective tissues alone."

If by these "connective tissues" he means the mass of musculo-fibrous tissue passing out laterally from each side of the cervix uteri towards the pelvic wall and filling in the base of the broad ligament, I can assure him that the late Dr. Arthur Nyulasy rectified a number of such cases by shortening those tissues alone. After several years of observation, dissection, and operation, he arrived at the conclusion that these lateral masses or bands of musculo-fibrous tissue "are the main elements holding the uterus at a more or less definite level in the pelvis," and that therefore their most correct title is the "cardinal ligaments of the uterus." They are often referred to as "Mackenrodt's ligaments," but this author's description is quite erroneous. Thus, he describes them as "bands of firm fibrous tissue, which form specialized parts of the pelvic fascia; arising in the neighbourhood of the ischial spines, they pass through the pelvic cellular tissue and are inserted into the sides of the cervix and vaginal vault."

Arthur Nyulasy's original dissections, as described in the *Annals of Surgery* and other journals in 1914, prove that these ligaments are not mere bands of firm fibrous tissue, they are not specialized parts of the pelvic fascia, they do not arise in the neighbourhood of the ischial spines, and they are not inserted into the sides of the cervix and vaginal vault.

On the contrary, they arise from the uterus and pass outwards to be inserted into the pelvic fascia on the lateral wall of the pelvis, and they are packed with bundles of smooth involuntary muscular fibres, whose presence Mackenrodt appears to have quite overlooked.

Five years after the publication of Arthur Nyulasy's papers, his views on the structure and functions of these ligaments were absolutely confirmed by Professors Hastings Tweedy and A. F. Dixon, the well known anatomist, at a meeting of the Royal Academy of Medicine in Ireland in February, 1919, and duly reported in the British Medical Journal. Professor Dixon said the support of the uterus

"was mainly applied at the lateral aspect of the cervix and at the lateral aspect of the vagina. Here the subperitoneal tissue was packed with smooth muscle and connective tissue fibres, radiating outwards along the vessels and nerves which abounded in that region. The dense mass was continuous with the muscle wall of the cervix and vaginal fornix, and not merely adherent to those structures; in front of these it was continuous with the muscular wall of the lateral angle of the bladder, and formed the ureteral sheath."

It would thus appear that the name of "Mackenrodt" should be dropped altogether in connexion with these ligaments; and, as Mr. Victor Bonney remarked in 1923, "it is time there was a consensus of opinion as to the nomenclature of such important structures." "Cardinal ligaments" seems their most appropriate title.

It may be added that Arthur Nyulasy's operation of "looping the cardinal ligaments in uterine prolapse" is fully described in a volume of his selected papers, which may now be seen in the library of either the British Medical Association or the Royal Society.

The essential points in the operation are these: the cardinal ligaments are exposed as in the operation of subtotal hysterectomy; the uterine arteries are tied, the inner ends of the cardinal ligaments are isolated from the posterior layer of the broad ligament on each side, and stitched (as loops) to the front of the cervix. This has the effect of raising the uterus to such a level as to overcome the prolapse. One of the advantages of operating by this method is that ovarian or other complications may be conveniently dealt with at the same time.—I am, etc.,

Frank A. Nyulasy, M.D.

Melbourne, Australia, May 3rd.

TUBERCULIN TREATMENT OF TUBERCULOSIS.

Sir,—I regret that in the cause of truth and suffering humanity I must again briefly refer to the report upon tuberculin treatment at dispensaries issued by the Medical Research Council in 1921. It was originally labelled "Confidential," but I had not asked for a confidential report, and was no party to this condition. Owing to my representations the report was eventually published in the *Lancet* for November 3rd, 1923, without this qualification. I was placed at a disadvantage because the investigators did not wish to meet me in person. I saw them once, and once only, and spent the hour they gave me at the dispensary in showing them the simple, accurate, and easy way we had introduced for measuring the exact doses to be given. Though the method can, I think, hardly be improved, in the report it was ignored, and the method I was compelled to use in Australia, and for some time in England, till I had special pipettes made in Germany for this purpose, was made the subject of criticism. Instead of describing the method in actual use, they used pages of the report to criticize the method, described in my book (1912) which I had discarded for many years—certainly for eight years. There were three investigators (Dr. Western, Dr. Burrell, and Dr. McNalty) and each of them signed this criticism, although each of them had been a witness of my personal demonstration. Let others judge of the value of this kind of criticism. It is hard for me to explain why three independent examiners should fall into so many inaccuracies, and it was surprising that these three medical men subscribed to a statement, without any evidence at all, that "this method of tuberculin administration succeeds in immunizing patients to large doses of tuberculin, but there is no evidence that it also immunizes them to tuberculosis." What evidence is there to support the conclusion, which to some must seem unintelligible? Both the effects and the lesions are the products of the toxins; I presume they meant the effects of the tubercle bacilli. Had they any right to make such a statement? Nowhere have I seen any recorded experiences of any of them with large doses, and they confessed to me that they knew nothing about the use of large doses of tuberculin.

My contention, based upon a very long and careful investigation, is, and always has been, that nothing but large doses of tuberculin can ensure lasting results in chronic forms of tuberculosis, and no authority has a right to criticize my views unless my methods have been tried and found wanting. My critics merely deny or assert but produce no evidence. Certainly my reply to their report should satisfy any lawyer who understands the meaning of evidence, that their way of appraising evidence would not find favour in a court of law. Those who state that there

Bt., M.D. *Treasurer:* Sidney Philip Phillips, M.D. *Registrar:* Raymond Crawfurd, M.D. *Harveian Librarian:* T. H. Arnold Chaplin, M.D. *Assistant Registrar:* Robert Oswald Moon, M.D.

Harveian Orator and Bisset Hawkins Medal.

The President announced that he had appointed Sir William Hale-White to deliver the Harveian Oration in 1927, and had awarded the Bisset Hawkins Medal, 1926, to Dr. A. T. Stanton.

Harvey Tercentenary.

The President reported the following recommendation of the Council, which was adopted:

> That it be remitted to a committee consisting of the President, Senior Censor, Treasurer, Registrar, and Harveian Librarian, with power to add to their number, to consider and report to the College on the arrangements that should be made by the Royal College of Physicians duly to celebrate in 1928 the tercentenary of the first publication of Harvey's *De Motu Cordis.*

Various Communications.

At the request of the Secretary of the Medical Research Council, Lord Dawson and Dr. John Fawcett were nominated to confer with that council on the question of continuing the issue of *Medical Science: Abstracts and Reviews.* A specimen copy of the Osler Memorial medal was accepted, with thanks to the Regius Professor of Medicine at Oxford, Secretary of the Osler Memorial Committee, for the gift. The President reported communications with the Home Office concerning the barbitone group of drugs, including copies of the draft amending regulations under Section VII of the Dangerous Drugs Act, 1920.

Various reports from standing committees were received, and the report of the Departmental Committee on the University of London was discussed. The President then dissolved the comitia.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary council meeting was held on July 29th, when the President, Sir Berkeley Moynihan, Bt., was in the chair.

Diplomas and Licences.

Diplomas of membership were granted to 174 candidates. Licences in dental surgery were granted to 2 candidates. Diplomas were granted jointly with the Royal College of Physicians: In public health to 16 candidates; in ophthalmic medicine and surgery to 32 candidates.

Appointments.

A letter was read from Mr. Herbert S. Pendlebury resigning his membership of the Court of Examiners, and suggesting that such resignation take effect on the conclusion of the final examination for the Fellowship in November. The resignation was accepted and the vacancy on the Court of Examiners thus occasioned will be filled at the ordinary meeting of the council on December 9th.

Sir Anthony Bowlby and Sir D'Arcy Power were re-elected, and Mr. Sampson Handley was elected, members of the executive committee of the Imperial Cancer Research Fund.

Lister Memorial Lecture.

The Lister Memorial Lecture by Professor von Eiselsberg, will be delivered at the College at 5 p.m. on Thursday, July 7th, 1927, and a reception will be held in the museum from 4 to 5 p.m. before the lecture.

The Supplemental Charter.

The Supplemental Charter, as prayed for by the College, was approved by the King in Council on July 26th.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have passed in the subjects indicated:

SURGERY.—A. C. F. Barrow, A. Henkamp, R. F. Middleton.
MEDICINE.—N. H. Allen, F. W. Barton, T. M. Beattie, W. O. H. Evans, J. B. Lurie, R. I. Richards, G. E. Rowan.
FORENSIC MEDICINE.—C. S. Forrest, H. S. Littlepage, J. B. Lurie, R. F. Middleton, T. E. Moody Jones, A. K. Rama Chandra, G. E. Rowan, R. S. S. Smith, M. Stinnesbeck.
MIDWIFERY.—A. C. Banerji, H. J. J. Fordham, D. Jacobson, V. K. Samy, M. T. Y. Selim, R. S. S. Smith, T. de L. Walker.

The diploma of the Society has been granted to Messrs. W. O. H. Evans, R. F. Middleton, and G. E. Rowan.

The Services.

NAVAL DECORATION.

THE Royal Naval Volunteer Reserve Officers' Decoration has been conferred upon Surgeon Commander R. Wilbond.

DEATHS IN THE SERVICES.

Colonel B. M. Blennerhasset, C.M.G., Army Medical Service (ret.), died at Rotorua, New Zealand, on May 26th, aged 76. His surname was originally Tincler, and under that name he entered the army, but changed it by deed poll to Blennerhasset in 1879. He was educated in Dublin, taking the L.K.Q.C.P. in 1870, and the L.R.C.S.I. in 1871, and subsequently the F.R.C.S.I. in 1889. Entering the army as assistant surgeon in 1872 he became colonel in 1902, and retired in 1906. He served in the Ashanti campaign of 1895-96, when he was mentioned in dispatches, and received the star, given instead of a medal for that campaign, and the C.M.G.

Lieut.-Colonel L. J. Pisani, Bengal Medical Service (ret.), died in London on June 22nd, aged 64. He was born at Gibraltar, the son of John Pisani, landholder, and educated at Charing Cross Hospital, taking the M.R.C.S. and L.S.A. in 1886. He entered the I.M.S. as surgeon in 1886, passing first into Netley, but dropping two places during the course there. In 1895 he took the F.R.C.S. He became lieutenant-colonel after twenty years' service, and retired in 1911. After the usual two years' military duty, he took civil employ in the Punjab, but was soon after transferred to the United Provinces. He served on the north-west frontier in the Hazara campaign of 1888, was present at the action at Kotkai, and received the frontier medal with a clasp. He was the author of a work on *The Pathology of Relapsing Fever*, 1889.

Lieut.-Colonel Henry Arthur Bransbury, D.S.O., R.A.M.C., was murdered at Lucknow on July 5th by an Indian servant. He was born on October 2nd, 1877, the son of the late Mr. Henry Bransbury of Southsea, was educated at St. George's, and took the diplomas M.R.C.S. and L.R.C.P.Lond. in 1900. After filling the posts of house-physician and assistant to the medical registrar at St. George's, he entered the army as lieutenant on January 29th, 1901, and became lieutenant-colonel in 1918. He served in the South African war in 1901-2, taking part in operations in the Transvaal and Orange River Colony, and receiving the Queen's medal with three clasps; he served also in the war of 1914-18, when he was mentioned in dispatches in the *London Gazette* of April 5th, 1916, and received the D.S.O.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

PARLIAMENT rose on August 4th for the long recess. The House of Commons is to resume its ordinary business on November 9th, but there will probably be a special sitting on August 30th for renewal of the Emergency Regulations. The Government will take the whole time of the House during the autumn session. The London University Bill, being a Government measure, may be carried, but there is considerable opposition to it. No attempt will be made to advance the Factories Bill which has just been introduced.

Though no decision has been officially announced, the Minister of Health is expected to introduce next year a bill founded on the recommendations of the Nursing Homes Committee. The bill, when introduced, will also propose consequential modifications in the Midwives and Maternity Homes Bill which has just been passed.

The House of Commons passed the Lead Paint (Protection against Poisoning) Bill through report and third reading on August 3rd.

Public Health in Scotland.

During the debate in the House of Commons on the Scottish Estimates the question of the duties of education authorities as to the feeding of school children during the holidays was raised. The Lord Advocate said that the education authority's duty arose when it found that, owing to lack of food or clothing, a child was not in a condition to take full advantage of the educational course. It was the duty of the parish council to provide relief while the child was at home.

Mr. Johnston said that in Dundee 4,000 persons lived in houses which had been officially scheduled as unfit for human habitation, and that 1,000 families lived each in a share of a room. The medical officer of health had urged development in house building. Mr. Barr said that the report of the Hospital Services (Scotland) Committee, over which Lord Mackenzie had presided, showed that the hospital accommodation was inadequate; in the six teaching hospitals in Scotland there were 3,256 beds and a waiting list of 5,854. Considering the inadequacy of the medical equipment, remarkable progress had, Mr. Barr said, been made. He recapitulated some of the statistics published in our columns, and quoted some about Glasgow, which will be found at page 272. The Labour party desired to see the whole health service a public service, and the best medical skill available to all without distinction.

Mr. T. Kennedy said that in cases of abnormal sickness national health insurance committees had the responsibility of inquiry and action. The Royal Commission of 1924 had recommended their practical abolition on the ground that the duties were of a routine character, and had diminished. The House should think seriously before assenting to their abolition.

Mr. Buchanan urged on the Scottish Office the need for more rapid expansion in the treatment of venereal disease. Medical provision in Glasgow and Edinburgh was not sufficient. In Glasgow it was not uncommon to have thirty or forty cases a night, and to give each the necessary medical attention was impossible. He referred also to the training of the blind; there was a long waiting list of persons anxious to get training. Mr. Wheatley said that Scotland required 100,000 working-class houses.

demonstrate how, in spite of all setbacks, medicine has gradually been freeing itself from legends, myths, traditional lore, and other human imaginings, and has emerged as a science developed in peace and war.

At some distant epoch the influence of this Association, by its varied world-wide activities, will be recognized as having made its contribution to the development of the spiritual, mental, and physical attributes of man, and so be found worthy of being included in such a history. Another prophecy; and yet an encouragement.—I am, etc.,

Hove, July 30th. E. ROWLAND FOTHERGILL.

DEFENCE OF ASSISTANTS AND LOCUMTENENTS.

SIR,—I am instructed by the council to bring before the notice of your readers the fact that this union, which enrols medical and dental practitioners in any part of Great Britain and Northern Ireland, has always accepted responsibility for the acts of their member's assistant or locumtenent. If, therefore, a claim is made, or an action raised against a member of this union in respect of a negligent (or alleged negligent) act of his assistant or locumtenent, the union will defend the case. The union's indemnity insurance scheme, under which members are protected in the event of an action against them being unsuccessfully defended, also covers the member, not only against his own negligence, but that of his assistant or locumtenent.—I am, etc.,

W. FINDLAY,
Secretary and Treasurer, Medical and Dental Defence Union of Scotland, Limited.

155, St. Vincent Street, Glasgow, C.2, Aug. 3rd.

Universities and Colleges.

UNIVERSITY OF OXFORD.

DR. WILLIAM BROWN has been re-elected Wilde Reader in Mental Philosophy for five years.

The Master and Fellows of University College, Oxford, upon the report of the Professor of Pharmacology, have awarded the scholarship in pharmacology to Frank Hawking.

On the recommendation of the Waynflete Professor of Physiology, the board of management of the Theodore Williams Scholarship in Physiology has elected F. R. Crookes and J. H. Hunt, whose work was of equal merit, to be Theodore Williams Scholars in Physiology for 1926-27.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on July 29th the following medical degrees were conferred:

M.D.—J. Rickman, *F. A. Barker.

M.B., B.CHIR.—J. W. H. Simpson, K. G. Salmon, P. E. Bardsley, R. S. Starkey, J. D. M. Stewart, D. P. Marks.

M.B.—F. W. Roques.

B.CHIR.—*L. G. Higgins, T. F. Fox, G. G. Holmes, F. G. Winterton, A. W. Spence, *B. C. Tate, V. B. Wigglesworth, J. H. Hannan.

* Admitted by proxy.

UNIVERSITY OF LONDON.

LONDON HOSPITAL MEDICAL COLLEGE.

THE entrance scholarship in pathology (value £100), offered by the London Hospital Medical College to students of the Universities of Oxford and Cambridge, has been awarded to Mr. G. E. Lewis, of Christ's College, Cambridge.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.

Dr. R. M. Morris has been awarded a Lalcaca medal, in addition to that gained by Dr. R. Crawford and referred to in the list of successful candidates published last week (p. 233); both students obtained an equal percentage of marks.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.

The following scholarships and bursaries have been awarded for the session 1926-27:—Isabel Thorne Scholarship: Miss H. M. Brown. St. Dunstan's Medical Exhibition: Miss E. J. Adams Clark. Sir Owen Roberts Scholarship: Miss R. E. Chamings. Mabel Sharman Crawford Scholarship: Miss P. Farncombe. Alfred Langton Scholarship: Miss P. D. Towell. Flora Murray Bursary: Miss M. M. Fenn. Fanny Butler Scholarship: Miss R. B. Snow. Dr. Edith Pechey-Phipson Post-Graduate Scholarship: Miss G. H. Newell, M.B., B.S.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary quarterly comitia of the Royal College of Physicians of London was held on July 29th, when the President, Sir John Rose Bradford, was in the chair.

Fellowship.

Dr. D. R. Paterson, Dr. G. E. C. Pritchard, and Sir George S. Buchanan were admitted to the Fellowship.

Membership.

The following, having passed the required examinations and satisfied the Censors' Board, were elected to the Membership, and all but Dr. Simpson were admitted.

Janet Kerr Aitken, M.D.Lond., Julia Bell, L.R.C.P., Shankar Sahai Bhatnagar, M.B.Punjab, Harold Godfrey Bird, M.B.Toronto, Edward Rowan Boland, L.R.C.P., William Brockbank, L.R.C.P., Norman Francis Clifford Burgess, M.B., L.R.C.P., Vincent Middleton Coates, M.D.Cantab., Daniel Thomas Davies, M.B.Wales, Durga Ratan Dhar, M.B.Calcutta, Victor Wilkinson Dix, M.B.Cantab., Helen Winifred Duncan, M.B.Lond., Chester Kingsley Dunstan, M.B.Sydney, Iris Mary Harmer, M.B.Cantab., Kenneth Edwin Harris, L.R.C.P., Richard Athelstane Parker Hill, M.D.Cantab., Alfred Birkbeck Hodgson, M.B.Lond. and Birm., John Holmes, L.R.C.P., John Alexander Innes, M.B.Aberd., Reginald Sleigh Johnson, M.B.Lond., Edmund Britten Jones, M.B.Adelaide, Alexander Henderson Kirker, M.B. New Zealand, Louis Lavine, M.B.Durh., Terence Charles Morton, M.D.Edin., Herbert William Pearson, M.B.Oxf., Edward Selby Phipson, D.S.O., M.B.Lond., Cyril John Polson, M.B.Birm., Dewan Hakumat Rai, *M.C.*, Major, I.M.S., Thomas Percy Rees, M.B.Wales, William Austin Robb, M.B.Lond., Hugh Alexander Robertson, M.B.Oxf., John Davy Rolleston, M.D.Oxf., John Whitwell Hope Simpson, L.R.C.P., Sidney Smith M.B.Lond., Capt., R.A.M.C., George Henry Wickens, M.B.Melb., F.R.C.S.Eng.

Licences.

Licences were granted to the following 176 candidates who had passed the recent examination.

R. M. Ainsworth, C. E. H. Anson, J. R. Armstrong, H. Y. Awad, W. Baker, B. Barling, J. T. Barr, A. K. Basilios, *Florence I. Beech, W. F. D. Benton, P. Berry, W. Blood, *Hilda M. P. Bond, *Mabel C. Booysen, M. D. Bower, *Ellen W. M. Bridge, R. C. Brock, R. D. W. Butler, P. J. L. Capon, *Rose A. Carter, *Alison M. Clark, E. V. Claydon, A. P. L. Cogswell, A. H. F. Cole, R. G. Cooke, *Constance M. Corbett, F. R. Corfe, *Annie A. Corp, J. B. Crabtree, A. T. Curnow, P. J. Curran, K. J. J. Cursetji, W. W. Darley, E. A. Darukhanawalla, L. Dass, J. R. A. Davies, *Mirabel G. Davis, C. A. Day, H. I. Deitchi, H. A. H. D'Silva, C. W. L. de Souza, *Sheila Dewar, G. Dignam, *Irene Dixon, *Jean M. Dollar, M. H. C. Dyson, J. P. Evans, R. Evans, S. N. Evans, G. L. Feneley, C. Fernando, R. F. Fidler, G. W. S. Foster, E. O. Fox, *Elsa C. A. Fristedt, R. Gallimore, R. C. Germond, F. Goldby, B. W. Goldstone, E. D. Y. Grasby, W. P. Greenwood, J. L. Groom, R. G. Hall, *Kathleen M. Halloran, T. J. Hargest, C. H. Harper, S. T. Harris, J. C. Hawksley, G. G. Hill, W. S. Hinton, A. S. Hollins, M. F. Hope, W. G. S. Hopkirk, *Nancy G. Howell, J. H. Humphris, W. T. Hunt, D. H. Isaac, *Mary R. Isaac, R. Jarman, B. S. Jarvis, B. C. Jennings, *Mary Jennings, J. D. F. Johnston, A. N. Jones, E. D. Jones, J. P. Jones, B. Kaplan, *Gladys Kay, W. A. Kerr, H. Kesselson, W. R. Kirkpatrick, J. H. Kitson, *Olive C. Knight, S. C. H. Lane, W. Leslie, A. L. St. A. McClosky, R. G. MacGregor, R. M. B. Mackenna, C. W. Mackenzie, E. H. Mackenzie, J. H. Marshall, W. N. Mascall, A. J. M. Melly, *Bertha I. Meyer, *Anna P. Montgomery, A. W. J. Morgan, J. Morris, *Margaret E. Morton, L. Moss, I. Muende, *Kathleen A. Muir, *Dorothy L. Neate, E. J. Newman, *Norah M. A. Niall, H. P. O'Keeffe, M. N. Oster, C. L. Owen, J. G. Paley, F. Parker, *Isabel D. Patterson, R. A. M. Pennington, G. H. Pereira, D. Perkoff, R. K. Phillips, M. M. Posel, E. I. Puddy, E. J. Pye-Smith, W. F. H. Ray, W. D. B. Read, *Violet M. H. Rendall, *Doris Reynolds, J. R. W. Richardson, F. T. Ridley, *Bertine M. Rix, *Phyllis Routledge, E. S. Rudaizky, S. E. Saint, A. E. Y. M. Salama, W. Samarasinghe, W. E. Savage, H. N. Seymour-Isaacs, A. Signaiewsky, R. W. A Simmons, H. Sissons, E. W. Skipper, *Peggie P. Slater, S. Smith, J. R. C. Spicer, J. B. Stauffer, K. R. Stokes, *Stella C. C. Stuart, R. D. Summers, M. M. Suzman, B. C. Tate, E. D. Thomas, L. H. Thomas, *Mary Thomas, R. Thomason, S. R. Trick, J. M. Turner, *Dorothy I. Valentine, *Nora A. Vane-Percy, G. F. Vincent, J. E. Wallace, S. D. H. D. Wallis, *Kathleen M. Ward, R. F. Ward, T. H. Wehlburg, A. G. Welker, D. F. Whitaker, E. G. Williams, H. P. Williams, *Jane C. Williams, *Elizabeth E. Wintringham, H. L. C. Wood, R. E. Yule.

* Under the Medical Act, 1876.

Diplomas.

The diplomas indicated were granted jointly with the Royal College of Surgeons to the following successful candidates:

PUBLIC HEALTH.—E. G. Anthonisz, C. M. Brown, Lily C. Butler, C. K. Cullen, P. P. Daruvala, E. F. Duck, E. James, J. V. Landau, Janet McL. MacKay, Catherine J. Maclaren, R. C. Mahajan, J. A. Struthers, T. Tennent, W. D. R. Thompson, Cicely Weatherall, M. J. Whelton.

LARYNGOLOGY AND OTOLOGY.—T. A. Clarke, A. L. Clowes, A. O. Davy, J. D. Dhruv, P. Garson, W. J. Macdonald, C. S. C. Prance, M. J. Quraishi, B. T. Rao, B. D. Uberoi, J. R. Wheeler.

OPHTHALMIC MEDICINE AND SURGERY.—R. A. de C. Basto, S. N. Chau, G. S. Chowdhary, W. J. L. Duncan, K. Eweida, S. Fraser, D. Hardie, S. H. G. Humfrey, R. Lang, E. H. Lim, A. M. MacGillivray, A. McGlashan, E. G. Mackie, M. S. Mahmood, M. C. Mason, H. B. Owen, T. G. W. Parry, W. L. Peacock, T. Pearson, H. Rai, P. R. S. Rao, G. P. N. Richardson, F. W. Robertson, Nina L. D. Robertson, W. J. Roche, K. G. W. Saunders, H. Singh, S. G. Sorabji, T. C. Talk, H. K. Tucker, M. L. Watts, L. E. J. Werner.

PSYCHOLOGICAL MEDICINE.—G. W. J. MacKay, J. R. A. Madgwick, J. T. H. Madill, A. R. Martin, L. Minski, A. C. Sinclair.

The Murchison Memorial Scholarship was awarded to C. E. Newman, M.B.Cantab, M.R.C.S., L.R.C.P.; and *proxime accessit* P. B. Wilkinson, M.B.Lond., M.R.C.S., L.R.C.P., both of King's College Hospital.

Members of committees and examiners for the ensuing year were elected, including:—*Censors:* Herbert Morley Fletcher, M.D., Robert Hutchison, M.D., John Walter Carr, C.B.E., M.D., Frederick John Poynton, M.D. *Emeritus Treasurer:* Sir Dyce Duckworth,

Obituary.

JOHN C. McVAIL, M.D., LL.D., F.R.F.P.S.G.,

Late Member of the Scottish Board of Health and Deputy Chairman, Scottish National Health Insurance Commission.

IT is with deep regret that we have to record the death of Dr. John C. McVail, whose influence on the development of public health during the last five-and-thirty years has been very great. When in 1922 he retired from the appointments of deputy chairman of the Scottish National Health Insurance Commission and member of the Scottish Board of Health, he settled in the outskirts of London (Golders Green) and lived there until towards the end of last year, when he went to winter at Torquay. His health, which had not been good for some years, gradually deteriorated, and he died there on July 29th.

John Christie McVail was born at Kilmarnock on October 22nd, 1849. He and his brother, the late Sir David McVail, were sons of Mr. James McVail, a well known citizen of that town. He received his early education there and entered the University of Glasgow and Anderson College, Glasgow, in 1869 for the purpose of studying medicine; he graduated M.B., C.M. at St. Andrews in 1873, and M.D. in 1875. Immediately after graduation he settled in practice in his native town, where he soon built up a large practice and became physician to the local infirmary. Even in those early years, however, his mind was occupied in considering, with the impartiality which remained characteristic of him, problems outside the usual sphere of medical practice. His friendship for Dr. John Borland, the first surgeon to the Kilmarnock Infirmary, led McVail to draw up statistics comparing the results achieved by Borland with those of Lister and other eminent surgeons of the times, which showed that though Borland did not practise antiseptic surgery but a form of rough-and-ready aseptic surgery devised by himself, his percentage of recoveries was as good, or nearly as good, as that obtained by those who had adopted the antiseptic method.

Photograph by] [W. Crook, Edinburgh.

JOHN C. McVAIL, M.D.

During his early days in Kilmarnock a volume on vital statistics for the years 1728 to 1764 came into his hands. This book gave the causes of every death in the burgh of Kilmarnock, and Dr. McVail was struck by the fact that the records of death afforded appalling evidence of the great prevalence of small-pox among children in the early part of the eighteenth century. This suggested to him an investigation into the subject of small-pox and vaccination, the result of which was a book entitled *Vaccination Vindicated*, of which the first edition was published in 1887. The wide knowledge that he acquired of vaccination from every point of view led to his being one of the principal witnesses called by the Royal Commission on Small-pox, and at a later period, when he gave the Milroy Lectures before the Royal College of Physicians of London in 1919, he selected as his subject *Half a Century of Small-pox and Vaccination*, afterwards published in a book with that title. These lectures contain a masterly summary of what is known in regard to vaccination. In 1902 he wrote for the British Medical Association a pamphlet entitled *Facts about Small-pox and Vaccination*. A second edition was published in 1905, and he revised it again in 1924. The evidence he gave before the Royal Commission on Vaccination, 1889-96, displayed in a remarkable manner his comprehensive knowledge of all matters relating to small-pox and vaccination, and from that time onwards he was generally recognized as one of the ablest exponents of the subject.

In 1885 McVail took the D.P.H. of Cambridge University. It was no easy thing for a busy man with so many other claims on his time and attention to find the leisure to prepare for such an examination, but he adopted the expedient of refraining from reading the daily papers during the preparatory period and of employing the time generally thus spent in serious study. Whenever he had a few moments to spare, some book or pamphlet on public health was always in his hand. The new health era was then beginning to dawn in Scotland, and McVail was one of the first to grasp its significance and to realize what might be accomplished by improved environmental conditions and the application of preventive measures to bettering the health of the people and diminishing the incidence of disease. His early aspirations in this direction were fostered and encouraged by his warm personal friendship with the late Sir George Buchanan, Sir William Power, and other medical officers of the English Local Government Board. McVail's appointment as medical officer of health for Kilmarnock in 1886 gave him his first real opportunity of practising the principles of preventive medicine. He soon came to be recognized as one of the leading authorities on all matters relating to sanitation and public health, and in 1887 he was elected President of the Sanitary Association of Scotland.

County councils were established by the Local Government (Scotland) Act, 1889, and with the view of securing a more effective sanitary administration than had, prior to the passing of the Act, been maintained in rural districts, the Act provided for the appointment of whole-time medical officers, and in February, 1891, McVail was appointed as the first medical officer of health of the counties of Stirling and Dumbarton. This large area was then, from the public health point of view, practically a virgin field, and with characteristic energy and enthusiasm he threw himself into his new duties of organizing and improving the sanitary administration of the counties. Schemes for the provision of water supply, sewerage, and later on scavenging, had to be devised and carried out, insanitary houses had to be dealt with, and nuisances of all kinds sought out and abated. At the time of McVail's appointment the only provision that had been made in Dumbartonshire for the isolation of infectious diseases was a wooden shanty situated near Dumbarton which was intended to serve the needs of the town as well as of the surrounding county area. The admirable series of annual reports presented by McVail to the county councils during this period bear ample testimony to the excellent work he performed in their service; the understanding and resource he displayed in handling the problems he was called upon to solve carried his reputation

Dr. Drummond Shiels said there was no finer Government document than the report of the Scottish Board of Health, but he hoped the Board would encourage local authorities to install artificial sunlight for the treatment of surgical tuberculosis, rickets, and general debility. He pointed out that in Scotland about 50,000 school children had been certified as insufficiently nourished, and about 1,300 as very much undernourished.

In reply for the Government, Dr. Walter Elliot called attention to a previous declaration by the Secretary for Scotland to the effect that the Board of Health hoped in time to arrange for the provision of an increased number of hospital beds. With regard to the provision for treating venereal disease in Glasgow, Dr. Elliot agreed that the situation of the Broomielaw centre was not entirely satisfactory. Further building was going on, and it was hoped considerably to improve the situation. In future, venereal disease would be dealt with in accordance with the terms of the International Convention which had just been ratified. He added an assurance that the Government was not considering at the present time the abolition of the housing subsidy.

Mental Cases (Certification).

In a reply on July 29th to Mr. R. Richardson, Mr. Chamberlain dealt with the case of a woman patient who had been committed during June on a doctor's certificate to Gloucester County Asylum. Mr. Richardson asserted that this case had been instanced in a communication recently made by a bench of magistrates to the Board of Control, which communication alleged a lack of proper scrutiny by the Board of the grounds upon which persons were committed to asylums. Mr. Chamberlain said that the patient had been committed on an order made by a justice of the peace. Copies of the reception documents were received by the Board of Control on June 14th, with an intimation that the patient had been discharged on June 11th, the medical superintendent being of opinion that she was not then of unsound mind. There was no question of any lack of proper scrutiny by the Board, because the patient was discharged three days before the documents reached the Board. In the opinion of the Board the facts observed by the certifying doctor at the time of his examination afforded ample ground for the conclusion that the patient was at the time of unsound mind and in need of care and control. It was erroneous to assume, because symptoms of insanity were not found on admission, that therefore those symptoms were not present at the time of certification and that the patient was improperly certified.

Mr. Richardson asked whether, as the Board itself admitted in its report for 1923 that twenty-two cases committed in the previous year were found to be sane on admission, the Minister would give directions that certification in all these cases should be declared invalid and their names erased from the roll of lunatics. Mr. Chamberlain replied that it was impossible to invalidate the certification of these persons. They were sent to mental hospitals under proper legal authority and on discharge their names were removed from the list of certified patients. Some amendment of the law might be desirable to facilitate the provisional observation and treatment, without full certification, of doubtful or transitory cases of mental disturbance, and this would be considered in connexion with the recommendations of the Royal Commission, whose report had just been issued.

Dr. Fremantle asked whether there was any chance of this legislation being introduced next session. Mr. Chamberlain said he was not in a position to make a statement.

On August 3rd Mr. R. Richardson asked the Minister of Health if his attention had been drawn to the recent decision in the Court of Appeal, in the case of Harnett v. Fisher, from which it resulted that if any sane person was wrongfully shut up in an asylum for six years he was debarred from redress; and if he would at an early date initiate legislation to remove this. Sir Kingsley Wood, who replied, said that the Minister of Health was advised that the deduction Mr. Richardson had drawn from the decision of the court in this case was too wide. As to legislation, all that could be added to what the Minister had already stated to the House was that the recent report of the Royal Commission on Lunacy and Mental Disorders was under consideration.

Midwives and Maternity Homes Bill.

In the House of Commons, on August 2nd, the Lords amendments to the Midwives and Maternity Homes Bill were, on the motion of Sir Kingsley Wood, agreed to, without discussion. The chief amendment empowers a local supervising authority to grant exemption from the operation of Part II of this Act in respect of (*a*) any hospital or other premises for the conduct of which a duly qualified medical practitioner resident therein is responsible; or (*b*) any hospital or institution not carried on for profit and not used mainly as a maternity home.

Rural Housing Bill.

The Minister of Health moved the second reading of the Housing (Rural Workers) Bill in the House of Commons on August 3rd. He explained that it was designed to improve the accommodation for agricultural labourers and other country workers. The bill enabled local authorities to submit for the approval of the Minister schemes for the improvement of houses in the country. The schemes would specify the class of houses to which improvements were to be applicable; the alterations were to be structural. Assistance, by way of loan or grant, or both, was only to be given to houses whose value, after they had been altered, did not exceed £400. Slums were excluded from this clause. There was also a time limit, which required that applications for assistance must be put in within five years.

Mr. Greenwood moved the rejection of the bill on behalf of the Labour party. It was, he said, virtually a landlord's relief bill.

Dr. Fremantle, in supporting the bill, said that it would be better to sweep away bad houses and build new ones; but this had been tried for the past seven years, with the result that only a few thousand houses had been built. He suggested to the Minister of Health that more attention should be directed to urging the local authorities to make use of the existing power to enforce the better conditioning of rural houses.

The amendment was defeated by 213 to 71, and the bill read a second time.

"Loud Speakers" in Public Places.—The Home Secretary, answering a question on July 29th, said that where the local authority thought a by-law necessary to prevent annoyance to residents or passengers by the use of "loud speakers" in or adjoining streets or public places, he considered they should be allowed to put the by-law into force. In a further reply, on August 2nd, the Home Secretary said he could not intervene against nuisances caused by loud speakers in gardens or open spaces. It was for the local authority to consider if a substantial nuisance existed which could be dealt with by by-law.

Silicosis in Mines.—Colonel Lane-Fox, on July 29th, informed Mr. Paling that it was not necessary to report cases of silicosis among mine-workers. The number of cases was known to be small, and, so far as coal mines were concerned, almost negligible. In reply to an inquiry on August 3rd as to whether any cases of silicosis had been reported which were alleged to have been caused through operating the stone-dusting regulations applying to coal mines, Colonel Lane-Fox said that the allegation had occasionally been made, but that in every case in which it had been made the disease had proved on investigation not to be silicosis.

Cancer Research.—In a statement, on July 29th, Mr. Chamberlain said that the expenditure from public funds directly assignable to cancer research during the three years ending March 31st, 1926, amounted to, approximately, £20,000, in addition to the use of a stock of radium worth £50,000, the property of the Government. This figure did not include any portion of the salaries of permanent officers of the Ministry of Health engaged in this work, nor take account of the cost, not readily estimated separately, of the work upon cancer undertaken by the scientific staff of the Medical Research Council at the National Institute for Medical Research. The Council's expenditure upon research in the more primary parts of the medical sciences, which was as necessary for the solution of the cancer problem as the direct study of the disease itself, had also materially advanced the knowledge of the subject.

Tuberculosis Dispensaries.—On July 30th Mr. Chamberlain said that tuberculosis dispensaries were provided by the local authorities, and it was for them to take such steps as they thought desirable for informing the public of the facilities available at the dispensaries. When next an occasion arose to circularize the local authorities responsible for the carrying out of tuberculosis schemes, he would consider the question of bringing to their notice the expediency of the periodical issue of information as to the location of the dispensaries and the facilities they offered.

University of London Bill.—The scheme for moving the headquarters of the University of London to Bloomsbury and for concentrating King's College and other colleges in that neighbourhood has been abandoned. Alternative suggestions for providing accommodation for the central offices of the University were under consideration, but no final decision has been reached. The University of London Bill has reached the Commons, but was not proceeded with before the recess.

Notes in Brief.

The terms of reference to the Committee appointed to consider pay and other matters affecting recruitment of officers and nurses to the medical branches of the fighting services do not include consideration of the sick-berth ratings of the navy.

The Prime Minister believes that protective measures are keeping abreast of current developments in gas warfare.

The Home Secretary is instructing the police to take active steps to enforce the law with regard to the use of effective silencers on motor-cycles, and is issuing a warning to motorists to see that their machines are effectively silenced.

Mr. Amery is communicating with the High Commissioner for Palestine regarding a proposal that a medical officer should be appointed whose principal duty would be to attend on officers of the Government and their families. In view of the small number of British officers and their families in Palestine it was not possible to appoint an officer whose sole duty would be to deal with such cases.

Bacteriological investigations into a recent epidemic of unknown nature in Poplar have yielded no positive result up to July 29th.

The Mental Deficiency Bill, received from the Lords, was read a first time in the Commons on July 29th.

The Factories (No. 2) Bill, the object of which is to consolidate, with amendments, the enactments relating to factories, was read the first time on August 2nd.

In the House of Lords, on August 2nd, the Adoption of Children Bill was read the third time and passed.

On August 3rd the Venereal Disease Act Amendment Bill was read a second time.

exposition of the subject, and it is difficult to believe that anyone who considered it dispassionately could fail to be convinced of the value of vaccination.

Among the many distinctions bestowed upon McVail may be mentioned the LL.D. degree conferred upon him by Glasgow University in 1908; his appointment in 1912 to be Crown member for Scotland on the General Medical Council, a position in which he succeeded his brother, Sir D. C. McVail, a distinguished Glasgow physician. He was a Fellow of the Royal Society of Edinburgh, and had been president of the Society of Medical Officers of Health of Great Britain and of the Incorporated Sanitary Association of Scotland. In 1906 he was presented with the Jenner Medal of the Royal Society of Medicine, and at the time of his death he was president of its Epidemiological Section. It has been a matter of some general surprise and regret that McVail did not receive any recognition from the dispensers of titular honours of his services to the public.

Like most men of outstanding ability, McVail was of a modest and retiring disposition. His genial manner and kindly disposition endeared him to all, while his anecdotes, generally tinctured with dry Scottish humour, were a never-failing source of delight to his friends. He was an earnest seeker after truth in the many problems which he was called upon to investigate during his busy life. In all that he did it was only the best that satisfied him, and no sooner was one piece of work accomplished than with undiminished energy and enthusiasm he commenced another. He had always great sympathy with the younger members of the profession who wished to adopt the preventive side of medicine as a career, and many men now holding important positions in the public health service owe him a debt of gratitude they can never repay. To the very end he retained the keenest interest in preventive medicine and all that pertained to it, and the calm philosophy with which he faced his last illness was a fitting termination to a life ungrudgingly spent in the service of his country. He was one of Scotland's great men.

Personal Tributes.

Sir GEORGE NEWMAN, K.C.B., M.D., Chief Medical Officer of the Ministry of Health and Board of Education, has been good enough to send us the following appreciation:

Scotland has lost a very good man indeed by the death of Dr. John McVail, and it is a loss which will be quite as much felt in England. For McVail belonged to us all. Yet no one who knew his long struggle against disease can be other than thankful that it is over. "We must all go out," he said the other day to a friend, "but this is a poor way." Well, at all events it can be said that by his patience and endurance and splendid courage, McVail made it a great and rich way. He was, in fact, a very brave man, and has left a worthy heritage behind, an inheritance for others of work well done and of a spirit which knows not defeat.

I always looked upon McVail as a typical Scotsman. He was strong physically, hard-headed in the sense of wanting facts and abiding by them, thorough-going and downright, with immense stores of energy and persistence. He had also the inquiring mind, which looked forward even though it built on the past. I must speak with due respect—for he was in practice when I was a child—but I think his disposition to inquire and question and probe must have been innate, and probably made him a good student in his Glasgow days. When I joined the Epidemiological Society in 1896 McVail had been a member for seven years, and my first recollection of him was in connexion with that society. He was then county medical officer for Stirlingshire and Dumbartonshire, having previously been in practice for eight years in his beloved Kilmarnock. It was in the cemetery there he learned much of his history, and there he now rests.

Somewhere about 1906-07 McVail became an investigator under the Poor Law Commission, and explored the social relations of medicine. He was exceptionally good at this, and brought to it all his experience and his knowledge of domestic life and habit acquired in Kilmarnock. Undoubtedly it was partly this work which led to his appointment some five years later as an Insurance Commissioner for Scotland and as Crown nominee on the General Medical Council. It was the last lap, but it lasted ten years. They were very happy, busy years during which he was at maturity and rendering invaluable service to the nation. It seems a good order of events, first general practice, then a county medical officer, then a civil servant in a wide and ever-extending sphere.

One of the services for which McVail is best known is his work on vaccination. *Vaccination Vindicated* had a wide circulation, and its author inevitably appeared in defence on many occasions. The small-pox records at Kilmarnock were called in witness, and he became a formidable controversialist. He was ever a fighter and smelt the fray from afar. The last address I heard from him on the subject was in a committee room of the House of Commons—a cogent, cautious, and fair statement, addressed, by request, to a large company of members. I always thought he excelled in positive presentation rather than in debate, when he was liable to be enticed by the enemy, or the mischievous, into long-winded argumentations which appeared to have no goal. He was, however, a good talker, and his persuasiveness and logic, and the intonation and pronunciation of his words were, to me, attractive and characteristic. I am afraid I have sometimes found myself, inadvertently, among the mischievous, but it was all very enjoyable, and to be fixed and pummelled by him most enjoyable of all, because he was obviously so loving it himself. He was full of humour, a very human, homely, and affectionate person, a true and faithful friend, a hater of humbug, wise in counsel, devoted to duty, and very courageous. He would have signed the Solemn League and Covenant, and gone to the stake, for his conscience was his king. Yet he was a great civil servant, and his life was a unity.

We are indebted to Sir NORMAN WALKER, his colleague in much of the later work he did in Scotland, for the following tribute:

I had known Dr. McVail for many years, but it was after 1911 that I was brought into close contact with him and learned to appreciate his sterling worth. We worked together on the Highlands and Islands Medical Service Board, on the Emergency Committee, on the General Medical Council, and the Scottish Board of Health. He was a very true friend to the medical profession, and gave a great deal of thought to what were its real interests. He somehow inspired confidence, and the comparatively smooth working of the Insurance Act in Scotland was largely due to the confidence which Scottish doctors felt in McVail. On the Highlands and Islands Board he spared no pains to ensure that the best possible service should be given to the people under the best attainable conditions for the doctors, and held a very wise balance between the extreme bureaucratic and the extreme professional side. The improvement in the medical service in the Highlands and Islands was a great gratification to him. During the war he took a very large share in the working of the Emergency Committee, and it seems to me only right, now that he has gone, to give him the deserved credit of being one of the instigators of the prominent part the organized medical profession took in the war. He always counselled more and more proffers of service, and argued that, if the medical profession did not do these things themselves, they would be imposed on them from above, and some of us know how very near the truth he came in that! In the proceedings of the General Medical Council, on which he was Crown nominee for Scotland during ten years, he very wisely at first gave time to acquaint himself with the procedure of that body. His direct interest in public health, and his conviction that the general practitioner should take a larger and larger share in preventive medicine, persuaded him that it was not regulations, but education of the medical students, which was the real solution. There were many members concerned in the proposals which resulted in the recent reform of the curriculum, but the man who started them was John McVail.

far beyond the immediate sphere of his administration. His special report, dated 1909, to the Scottish Local Government Board on the housing of miners in the counties for which he was medical officer of health was an excellent piece of work.

One of the difficulties associated with the system of county public health administration in Scotland has been the frequent attempts made by burghs to extend their boundaries, which, if successful, entailed loss, and sometimes considerable loss, of rateable areas to the district committee of the county concerned. McVail was engaged as an expert witness in many such controversies, both in the counties for which he acted as medical officer of health and in other parts of Scotland. His intimate knowledge of the whole subject, combined with his grasp of detail of any particular case and the clear and concise manner in which his evidence was invariably given, always carried great weight with the tribunal before which such cases were heard. McVail was a keen epidemiologist, and all outbreaks of infectious diseases in the areas under his control were promptly and thoroughly investigated. His account of an outbreak of small-pox which occurred in 1892-93 among the navvies engaged in the construction of the West Highland Railway illustrated the experiences and problems—difficult but stimulating—which that disease may bring to the health administration of a rural area which was, at that time, unprovided with the preventive equipment of a town.

In 1905 McVail was invited by Cooper Medical College, San Francisco, to deliver the Lane Lectures on preventive medicine. He went to San Francisco in 1906, shortly after the earthquake had devastated the town. This admirable series of lectures was subsequently published in a book, with the title of *The Prevention of Infectious Diseases*.

In 1907 McVail was appointed by the Royal Commission on the Poor Laws and Relief of Distress to report on the methods and results of the present system of administering indoor and outdoor Poor Law medical relief. For this purpose he made a very careful study on the spot of certain unions in England and Wales selected as typical. This report was an excellent piece of work. He described Poor Law medical relief, both urban and rural, as "a cripple supported on two crutches—the general hospitals on one side, and gratuitous medical work on the other." He dwelt on the paramount importance of preventing disease, and suggested that in any scheme of reorganization of the Poor Law medical service the medical functions of the guardians should be transferred to the health authorities, though in this connexion he strongly emphasized his opinion that the rural district councils would be unsuitable bodies for the purpose, and indirectly referred to the need of reformation or reorganization of the sanitary government of rural England.

When the National Health Insurance Act came into operation McVail was appointed, in 1912, deputy chairman of the National Health Insurance Commission for Scotland. It was with sincere regret that he severed his official connexion with the counties of Stirling and Dumbarton, in which he had spent such happy and fruitful years of strenuous activity; but his experience and abilities were required to assist in the inauguration and administration of the new system in Scotland, and he unhesitatingly responded to the call. His work at the Insurance Commission, and afterwards as member of the Scottish Board of Health, is well known.

For many years McVail was an active and influential member of the British Medical Association. In the year 1904 he became chairman of the Glasgow North-Western Division, and in the following year was appointed president of the Glasgow and West of Scotland Branch. For a number of years he acted as a member of Council of the Association. He was secretary of the Section of Public Medicine in 1888, vice-president in 1898, and president in 1903 of the Section of State Medicine, and president of the Section of Medical Sociology in 1912. He was a member of the Constitution Committee which drafted a new constitution for the British Medical Association in 1900-01. The Association had been founded at Worcester in 1832 under the name of the Provincial Medical Association, and by 1856, as it had enlarged very considerably, it changed its name into the British Medical Association. The Association's membership had by this time increased from the original 50 to 2,094, and by 1884 it numbered nearly 12,000 members. In 1899 the organization of the Association, especially as regarded representation of general practitioners in its government, had caused a great deal of discussion. A schism was threatened by the formation of a medical guild at Manchester, in which thirty-five medical societies and six Branches of the British Medical Association were represented. A conference was held, at which it was decided that the objects aimed at could best be attained by reorganization of the British Medical Association. The result was the appointment of a committee to revise the constitution of the Association; McVail was a member of this committee, and took an active part in its work. Later on he wrote a historical sketch of the steps by which the present constitution had been achieved, which was published in the British Medical Journal in June, 1924, and later in a pamphlet. McVail received the Stewart Prize of the British Medical Association at the Annual Meeting in Glasgow in 1922. A testimonial presented along with the prize by Sir William Macewen, then President of the Association, said that it had been awarded to McVail in recognition of the important work he had done during a long life devoted to public health. After recapitulating the steps through which he had passed in public health work, Sir William Macewen declared that his painstaking investigations, his lucid reports, and his wisdom in council displayed during the period of his appointments had placed Dr. McVail in the front rank of public health officers.

Charles Lamb once remarked that his most important works were to be found on the shelves of the India Office, and so Dr. McVail's most important labours are on record in the many reports he issued while a medical officer of health, and afterwards as the deputy-chairman in the Scottish Board of Health. Yet he found time for many published articles, chiefly connected with his own subject of preventive medicine. In addition to the works already referred to may be mentioned his "Report on Medical Relief to the Royal Commission on the Poor Law" (to be found in Vol. 14 issued in 1909), and his article on preventive medicine in Allbutt and Rolleston's *System of Medicine* (1906).

From the time when he first took up public health work and began to write about vaccination he was a frequent contributor to the editorial columns of the British Medical Journal; when he was appointed a member of the Insurance Commission and of the Board of Health in Scotland, he became too immersed in the duties of these offices to continue, but he was still ready to advise on general principles. When he retired and came to live in London he declared that for the rest of his life, which he did not expect to be long, he would do nothing; but, without any very great difficulty, he was inveigled into breaking his resolution on occasions, which, happily, became more and more frequent.

During his long professional life McVail contributed a large number of articles to the medical journals and gave many interesting addresses on different aspects of public health work. His language, whether written or spoken, was always clear, forceful, and to the point, and he did much to educate the public as well as the medical profession in the advantages to be derived from the practice of preventive medicine. To some of his writings reference has already been made; it would be wearisome to attempt to enumerate them all, for he was always ready to step into the breach when he thought his experience would be of service to the public or to the profession; we may, however, recall—for the fact that he gave it is not generally known—the address on small-pox and vaccination which, at the request of the Ministry of Health, he delivered in 1923 to members of Parliament in one of the committee rooms of the House of Commons. He divided his subject matter under four headings—namely, (1) small-pox is worth preventing; (2) small-pox can be prevented by vaccination; (3) small-pox cannot be prevented without vaccination; (4) properly conducted vaccination is very safe. It was a clear and concise

Members of the Association who have had occasion frequently to visit the Central Offices will learn with regret that the senior porter, Mr. SAMUEL COX, died suddenly on July 28th, from pulmonary haemorrhage, at the age of 54. His early life was spent in the 11th Hussars, with which he went through the Chitral campaign. During the South African war he was General French's personal dispatch rider. He entered the service of the British Medical Association in 1902, and was called up at the beginning of the great war, throughout which he served in the Army Service Corps as saddlery sergeant. While with the British Medical Association he discharged numerous functions, always with courtesy and diligence. Almost his last duty, performed during the recent Annual Meeting, was to carry the Nottingham flag before the President in the procession to St. Mary's Church. Mr. W. G. Spencer, the Honorary Librarian, desires us to add his appreciation of Cox's services as library porter, and particularly during the change from the Strand to Tavistock Square. "He was," Mr. Spencer says, "one of the most obliging and all-round efficient men I have ever met."

Medical News.

AT the Post-Graduate Hostel, Imperial Hotel, Russell Square, London, a discussion on the silhouette radiogram in the interpretation of clinical signs will be opened on Thursday, August 12th, at 9 p.m., by Mr. A. P. Bertwistle, F.R.C.S.Ed. Ladies and friends of medical men are invited to attend. Two discussions were held last week. Dr. Finsterer of Vienna, on his way from Nottingham, where he had taken part in the discussion in the Section of Surgery on gastro-enterostomy, spoke on operations on the stomach. Sir William Wheeler, who was in the chair, emphasized the diagnostic importance of a course of arsenic in deciding whether the case was one of anaemia or carcinoma. The second discussion was opened by Sir George Lenthal Cheatle, who dealt with the difference between hyperplasia and inflammation, which he regarded as two distinct entities. He illustrated his remarks by lantern slides.

THE late Sir Henry Morris, Bt., F.R.C.S., has left estate of the value of £44,768, with net personalty £44,602. He directed his executors to offer the portraits of himself by W. W. Ouless, R.A., to the National Portrait Gallery, and, if not selected by them, to the Royal College of Surgeons and the Royal Society of Medicine.

IN aid of King Edward's Hospital Fund for London visits to the Tower of London are being arranged for August 11th, 18th, 25th, and September 1st. Mr. Walter Bell, F.S.A., will give addresses and conduct parties round the building, and an opportunity will be afforded to visit Queen Elizabeth's Walk and the Bell Tower. Parties will assemble at the entrance gates at 2.30 p.m. (nearest Underground station, Mark Lane). Early application for tickets (price 7s. 6d.) should be made to the Secretary of the Fund, 7, Walbrook, E.C.4.

THE Fellowship of Medicine announces that the special course in diseases of children at the Queen's Hospital from August 16th to 28th will include demonstrations, lectures, and operations in the various departments of the hospital. From August 23rd to Sept. 4th the Queen Mary's Hospital, Stratford, will provide an all-day course of instruction in all departments. Regular weekly courses in obstetrics are now offered at the City of London Maternity Hospital; practical courses in anaesthetics can be arranged on application to the Fellowship. The September special courses include: diseases of infants, electrotherapy, ophthalmology, orthopaedics, psychological medicine, and an intensive course in medicine, surgery, and the specialties. Copies of all syllabuses, the general course programme, and the Fellowship journal may be obtained from the secretary of the Fellowship, 1, Wimpole Street, W.1.

A POST-GRADUATE course in non-pulmonary tuberculosis will be held at Heatherwood Hospital, Ascot, Berks, from September 23rd to 25th inclusive. The programme includes discussions on light treatment, diseases of the spine and hip, and the after-care of surgical tuberculosis. It is stated that the course has been approved by the Minister of Health as ranking for a grant. The fee is one and a half guineas, and further information may be obtained from the honorary secretary, Joint Tuberculosis Council, Post-Graduate Courses, 19, Brunswick Square, Camberwell, S.E.5.

THE eighth Karlsbad international post-graduate course in balneology and balneotherapy will be held from September 12th to 18th. Professor George Barger of Edinburgh will deliver a lecture on the chemistry of hormones. The course is open to all medical practitioners, for whom full opportunities for studying the local therapeutic institutions will be provided. In connexion with the course a Czecho-Slovakian visa will be supplied without charge and a 33 per cent. reduction allowed on the State railways. Further information may be obtained from the secretary, Dr. Edgar Ganz, Karlsbad.

A POST-GRADUATE course in dermatology and venereology will be held at the Strasbourg Faculty of Medicine from September 20th to November 6th, under the direction of Professor Pautrier, assisted by Professors Barré, Blum, Canuyt, Merklen, and others. A course on the principal laboratory methods and the general morbid anatomy of skin diseases will be held at the same time; the fee for each course is 300 francs. Further information can be obtained from Professor Pautrier, 2, Quai Saint-Nicolas, Strasbourg.

THE twenty-sixth French Congress of Urology will be held at the Paris Faculty of Medicine on October 5th under the presidency of Dr. Marion, when a discussion on the vesico-ureteral reflux will be introduced by Dr. Lepoutre of Lille. Further information can be obtained from Dr. O. Pasteau, 13, Avenue de Villars, Paris VII^{e}.

UNDER the direction of Professor Jeanselme three autumn courses will be held at the Hôpital St-Louis, Paris, the fee for each being 250 francs. During October there will be a dermatological course, and in November one in venereal diseases, while from November 29th to December 22nd the two subjects will be treated from the therapeutical standpoint. Further information may be obtained from Dr. Burnier, Hôpital St-Louis, Paris.

THE twenty-second international medical post-graduate course will be held at Vienna from September 27th to October 9th, the subject being modern therapeutics; in connexion with it there will be a course in public health. Further information may be obtained from Dr. A. Kronfeld, Porzellangasse 22, Vienna IX.

WITH the co-operation of the Union of American Biological Societies a monthly periodical, *Biological Abstracts*, will appear shortly and include epitomes of the literature of the world dealing with theoretical and applied biology, excluding clinical medicine. Individual biologists can obtain the journal for an annual subscription of nine dollars. Further information may be obtained from the editor, *Biological Abstracts*, University of Pennsylvania, Philadelphia, Pa., U.S.A.

A BOOK entitled *Les Héros sans Gloire* has been prepared by Madame A. René-Brouillhet, the widow of a French army medical officer who died during the war. She has collected material industriously, and the volume is dedicated to the memory of the surgeons who died for France. It will be published shortly (price 25 francs) by C. Lavauzelle et Cie, 124, Boulevard St.Germain, Paris, to whom subscriptions may be sent.

A NEW publication entitled *Archives médico-chirurgicales de l'appareil respiratoire* has been established in Paris (G. Doin et Cie); it deals with physiological, medical, and chemical researches into the pathology of respiration. The editors are Drs. Pierre Pruvost and Jean Quénu.

A WELL illustrated pamphlet entitled *At the Meeting of the Ways* has been issued in support of an appeal by University College Hospital for money to provide an additional annual income of £15,000. As reported at the time, the Prince of Wales opened the new hospital extensions—namely, the obstetric hospital and the nurses' home—at the end of May, and unveiled a memorial tablet at the new Royal Ear Hospital, which has been rebuilt as part of University College Hospital. The hospital was founded ninety-three years ago, and was, we believe, the first hospital established in this country as part of a medical school and with a direct connexion with a university. The pamphlet describes the nature of the work in the various departments; copies of it may be obtained from the secretary of the appeal committee at the hospital.

THE sterilization of milk and butter by the electric current, ozone, and ultra-violet rays forms the subject of an interesting article in the *Revue générale des Sciences pures et appliquées* for May 15th, by the agricultural engineer, M. Antonin Rolet.

IN the recent massage examinations four blind students from the National Institute's massage school were successful, one of them being the holder of a Gardner scholarship. This examination is held in open competition with sighted candidates.

THE London County Council has added the name of Professor Alfred Piney, M.B., director of pathology at Charing Cross Hospital, to the panel of expert pathologists who may be called in by coroners in connexion with inquests of exceptional difficulty.

To Dr. G. MATHESON CULLEN, medical officer of the Scottish Board of Health, we owe the following notes, which show deep understanding of McVail's character and aims:

To those who had the privilege of friendship with John Christie McVail the news of his passing will bring a pang of deep regret. His years had stretched beyond the Psalmist's span, and they had been fulfilled of good work done in various fields, so that there is no grief at unaccomplished purpose. Rather is it the inevitable sadness associated with the vacant chair, the hearty handshake that will grip no more, the merry eye for ever closed. For his was a personality that made pleasing and permanent impressions.

My own knowledge of McVail only began when he entered on the last phase of his official career. He had then reached an age when most men sigh for the easy life, the rest after toil; but to him the attraction of his new duties appeared to lie in the fresh opportunities for work which they offered. And he worked indeed. There can be little doubt that the success which crowned the administrative board of which he was a member was largely due to him; to his abounding energy, tireless work, unfailing tact, breezy good humour, crassaque Minerva. There was nothing of the sexagenarian about him but the years. His vitality was immense, his good humour infectious, his fund of stories inexhaustible.

To every problem McVail brought a fresh and keen interest, with a calm and critical evaluation of all the facts. It was so even when the problem was that of his own life—or death. A dread disease laid an icy hand upon him, but his cheery smile gave no suggestion of the least anxiety; his pain elicited no murmur of complaint. Within an hour of leaving him at a meeting, where he was discussing matters with his usual animation, he telephoned me to say that he would be absent from the office for some time. Thinking that he was holiday bound, I expressed the hope that he would enjoy the rest and change. Then for the first time I learned that he was entering a nursing home that evening for a serious operation. "As I may never come out," he explained, "I did not care to leave without, at least, bidding you good-bye."

The six years that have elapsed since then have been faced with the same spirit. He survived the operation with a struggle; his fine physique triumphed. And when he took up his duties again it was with "scarce abatement of his cheerfulness, or pretermission of the daily craft." No word of his betrayed the fact that his doom was sealed, that in all probability a short month or two would see the end. Only a very few trusted friends knew of the disabling, cruel chain, that fettered his body from that time onwards. And his optimism had its reward. The progress of the fell disease was unaccountably stayed. He finished his term of office, and then retired to London. Even then he did not retire from work, for the time of his residence in the metropolis was filled with interesting and useful occupation.

Such strength of purpose is not seldom associated with a certain sternness of character that does not breed friendship, but it was not so with McVail. It is true that his early training as a school teacher made him somewhat dogmatic in manner; he had no words of glozing courtesy for incompetence; his was not the nature to suffer fools gladly. But no one knew better how to rob directness of its sting; no one could be more spontaneous and generous in his praise of good work. Altogether the elements were so mixed in him that the result was a man whom his opponents could esteem and admire; the type of man that makes many friends and binds them to him with enduring ties. To them, the pain of this rough tearing of the bonds the soothing hand of Time will dull; the ragged wound will heal; but the resulting scar will bear mute testimony of the wrench till for them, too, the inevitable hour shall come.

The death occurred, at the age of 74, at his residence in Musselburgh, near Edinburgh, on July 18th, of Dr. A. D. R. THOMSON. He was the son of the late Dr. L. R. Thomson of Dalkeith. He was educated at a private school in Musselburgh and afterwards studied medicine in Edinburgh; he obtained the licences of the two Royal Colleges in 1875. In 1882 he became a Member of the Royal College of Physicians and was elected a Fellow in 1890. At the time of his death he had been for over forty years medical officer of Loretto School at Musselburgh; he was also medical officer of Inveresk Parish and certifying surgeon for the district under the Factories and Workshops Act. He became a member of Musselburgh Town Council with the avowed purpose of securing the erection of a modern fever hospital in the burgh; he had to continue his efforts for several years, but was ultimately successful in persuading the Town Council to go forward with the project; he retired from public service when the scheme was completed. Dr. Thomson was a keen golfer and a cricketer also; he was captain of Dalkeith Cricket Club and played also for the West of Scotland Club. Latterly his chief recreation was shooting, but he continued to ride to hounds till advanced in years. He was an angler also, and was noted as a billiard player. In the old days, before the advent of the motor car, Dr. Thomson was an impressive figure as he went his daily rounds in a high dogcart with a high-stepping horse. His wife, who predeceased him by some years, was also of a medical family, having been a daughter of the late Dr. A. M. Sanderson of Edinburgh. The loss of Dr. Thomson, who is survived by a son and daughter, will be mourned over a wide area and by patients of all degrees in the Lothians; his memory will be cherished by many as that of a good doctor, a valued citizen, and a constant and cherished friend.

Dr. DANIEL MACPHERSON TAYLOR, who died at his residence at the Halifax Sanatorium on July 10th, was born in 1868, and received his medical education in Glasgow, where he graduated M.B., C.M., with high commendation, in 1891, and proceeded M.D. in 1904; he obtained the D.P.H. in 1906. After a period of general practice in London and York he was appointed school medical officer to Halifax in 1910, and interested himself particularly in the work of the Bermerside Open-Air School and Home. In 1913 he became tuberculosis officer, assistant medical officer of health to the county borough of Halifax, and resident medical superintendent of the corporation's sanatorium at Shelf, appointments which he retained up to the time of his death. During the war he held a commission in the R.A.M.C., and served in Mesopotamia; there is no doubt that his health was seriously impaired by this and by the loss of a son in the war. He devoted himself particularly to tuberculous ex-service men, and won a wide popularity as a diagnostician and an agreeable colleague. He leaves a widow, two daughters in the nursing profession, and a son who is still at school.

Dr. REGINALD ERNEST HORSLEY, who died on July 22nd, at the age of 62, was a native of Sydney, New South Wales, and was educated at Sydney Grammar School, Trinity College, Melbourne, and the Universities of Edinburgh, Dublin, and Berlin. He graduated M.B., C.M.Ed., in 1885, obtained the diploma F.R.C.S.Ed. in 1890, and proceeded M.D. in 1893. After serving as secretary to the scientific staff of the *Challenger* Expedition Commission he held the posts of assistant in the ear and throat wards of Edinburgh Royal Infirmary, surgeon to the Edinburgh Ear and Throat Dispensary, aurist to the Edinburgh Institution for the Education of Deaf and Dumb, and physician and lecturer on biology at Stonyhurst College. He was secretary of the section of otology at the International Medical Congress in Berlin in 1890. Dr. Horsley was also a justice of the peace and Provost of the Royal Burgh of Crail, Fife, a position which carried with it the ancient title of "Admiral of the Forth." He retired from the active practice of medicine more than twenty years ago, and had since been engaged in literary work; his publications included *The Romance of New Zealand* (in the Romance of Empire Series), *In the Grip of the Hawk*, *The Blue Balloon*, *The Red Hussar*, and other novels.